

SEVENTH AMENDMENT  
TO THE  
FISHERY MANAGEMENT PLAN FOR  
COMMERCIAL AND RECREATIONAL SALMON  
FISHERIES OFF THE COASTS OF WASHINGTON,  
OREGON, AND CALIFORNIA COMMENCING IN 1978

Incorporating the Environmental Assessment,  
the Regulatory Impact Review/Initial Regulatory Flexibility Analysis  
and  
Requirements of Other Applicable Law

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## EXECUTIVE SUMMARY

This amendment analyzes three issues relevant to the "Fishery Management Plan for Commercial and Recreational Salmon Fisheries Off the Coasts of Washington, Oregon, and California Commencing in 1978." The most recent amendment to this FMP was approved in October 1984, when the FMP was converted to a framework plan. The framework amendment included a supplemental environmental impact statement.

### Background

While official implementation of the salmon framework amendment did not commence until 1985, regulations governing the ocean salmon fisheries have followed framework procedures and guidelines beginning with the 1984 season. Management experience gained since that time led to the identification of seven potential amendment issues at the Council's July 1985 "scoping" session. Further review reduced the number of issues to three.

### Issues in the FMP Amendment

The three amendment issues analyzed propose changes in currently existing elements of the salmon framework amendment. Issue 1 examines the OCN coho escapement goal with regard to the biological and socio-economic impacts of a specific deviation from the current goal at low stock sizes. Issue 2 examines the impacts created by additional flexibility in the inseason management measures. Issue 3 provides an analysis of impacts which result from increasing the harvest allocation of coho salmon for recreational fisheries south of Cape Falcon. Alternatives being considered in each of these issues are described below.

#### OCN Coho Escapement Goal

This issue compares the impacts of the current OCN coho spawning escapement goal and a fixed deviation from that goal to reduce socio-economic hardship at low levels of stock abundance. Option 1 is the current OCN coho escapement goal (status quo) of 200,000 naturally spawning adult coho to be achieved by 1987 and every year thereafter. This goal approximates an estimate of MSY for this stock. Option 2 specifies that at OCN coho stock abundance levels less than 400,000; the escapement goal would equal one-half the stock abundance down to a floor escapement of 135,000. This would allow an additional increment of harvest at stock sizes between 135,000 and 400,000 over that allowed under the current goal.

#### Inseason Management Actions and Procedures

Prior to 1986, regulations allowed for three fixed and up to seven optional inseason management provisions. During the preseason process the Council selected which of the seven optional provisions it believed to be appropriate for the coming season. These provisions included:

1. modifications to coho quotas and seasons based on inseason reassessment of private hatchery contributions



2. modifications to commercial coho quotas and seasons based on inseason assessment of coho hooking mortality during all-species seasons
3. modifications to quotas and seasons for chinook and/or coho based on inseason revisions to abundance estimates
4. reduction in quotas and seasons due to unanticipated salmon catches in the territorial sea
5. redistribution of quotas to achieve an overall quota
6. boundary modifications to promote attainment of quotas
7. inseason modification of recreational daily bag limits

These specific inseason measures have not been sufficiently flexible to allow the federal implementation of all of the inseason changes which the Council has recommended in the past and which have been implemented through state regulations.

Option 1 ("nearly" status quo) allows for the three fixed and seven rather specific optional inseason management provisions noted above, plus two additional optional provisions for which need has been demonstrated in past seasons. These are (1) adjustments of the recreational fishing days permitted per week and (2) modification of gear restrictions.

Option 2 maintains the framework fixed provisions and broadens the scope of inseason management significantly. Any flexible provision would be allowed as long as it is consistent with (1) ocean escapement goals, (2) conservation of the salmon resource, (3) adjudicated Indian fishing rights, and (4) the allocation schedules in the framework FMP. In addition all inseason adjustments would be based on the following considerations: (1) predicted sizes of salmon runs; (2) harvest quotas and hooking mortality limits for the area and total allowable impact limitation if applicable; (3) amount of recreational, commercial, and treaty Indian fishing effort and catch for each species in the area to date; (4) estimated average daily catch per fisherman; (5) predicted fishing effort for the area to the end of the scheduled season; and (6) other factors as appropriate.

A third option which reduced inseason management flexibility was considered and rejected by the Council during the amendment development process. The problems associated with inseason management have all resulted from a lack of flexibility, not from too much flexibility.

#### Allocation of Allowable Ocean Harvest of Coho Salmon South of Cape Falcon

This issue compares the impacts of the current framework allocation schedule for allowable coho harvest south of Cape Falcon to a modified schedule which was developed by representatives of the troll and recreational users. The result of the modified schedule is to allocate more of the allowable harvest to the recreational fishery and thereby optimize the fishery benefits to the coastal communities.



Option 1 (status quo) allows the recreational fishery to take 85 percent or more of the entire allowable harvest (less the estimated incidental coho hooking mortality in the directed commercial chinook fishery) at total harvest levels of 200,000 and below. The recreational allocation then remains static at 170,000 until total allowable harvest exceeds 600,000. Between a total allowable harvest of 700,000 and 2,500,000 the recreational allocation increases from 174,300 to 350,000.

Option 2 modifies the present allocation schedule to provide a greater proportion of the harvest to the recreational fishery. In years when the recreational fishery may not need its full allocation, a special "roll over" provision allows for a transfer of the unused recreational allocation to the commercial fishery. Up to a total allowable harvest of 200,000 coho, Option 1 and 2 differ relatively little. However, Option 2 specifies that the initial total allowable harvest of 150,000, which is allocated to the recreational fishery, may be reduced by the amount of shaker mortality set-aside necessary to permit the directed commercial chinook fishery if the troll allocation is insufficient for this purpose. Under Option 2 the recreational allocation increases from 167,000 to 252,000 as total allowable harvest goes from 200,000 to 600,000. Between a total allowable harvest of 700,000 and 2,500,000 the recreational allocation increases from 266,000 to 450,000.





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The proposed amendment to the "Fishery Management Plan for Commercial and Recreational Salmon Fisheries Off the Coasts of Washington, Oregon, and California Commencing in 1978" has been prepared by a team of scientists with special expertise in salmon resources, by the Pacific Fishery Management Council staff and the staff of National Marine Fisheries Service, Northwest Region. The issues under consideration resulted from a variety of sources including a public "scoping" session, organized user groups, and agency personnel. The Oregon Coastal Zone Management Association provided support and coordination for the development of Issue 3. Specific personnel involved in this effort are listed below.

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# LIST OF ACRONYMS AND ABBREVIATIONS CONTAINED IN THE AMENDMENT

|            |  |
|------------|--|
| Commission | Oregon Fish and Wildlife Commission                              |
| Council    | Pacific Fishery Management Council                               |
| CDFG       | California Department of Fish and Game                           |
| CZMA       | Coastal Zone Management Act                                      |
| DOE        | Department of Ecology  |
| EA         | environmental assessment   |
| EIS        | environmental impact statement                                   |
| ESA        | Endangered Species Act   |
| FCZ        | fishery conservation zone  |
| FMP        | fishery management plan  |
| I/O        | input/output   |
| LCDC       | Land Conservation and Development Commission                     |
| MFCMA      | Magnuson Fishery Conservation and Management Act                 |
| MMPA       | Marine Mammal Protection Act                                     |
| MSY        | maximum sustainable yield  |
| NEPA       | National Environmental Policy Act                                |
| NEV        | net economic value   |
| NMFS       | National Marine Fisheries Service                                |
| NOAA       | National Oceanic and Atmospheric Administration                  |
| NPPA       | Pacific Northwest Electric Power Planning and Conservation Act   |
| OCN        | Oregon coastal natural   |
| OCZMA      | Oregon Coastal Zone Management Act                               |
| ODFW       | Oregon Department of Fish and Wildlife                           |
| OPI        | Oregon production index  |
| OSY        | optimum sustainable yield (of OCZMA Goal 19)                     |
| OY         | optimum yield (as defined in the MFCMA)                          |
| PSTA       | Pacific Salmon Treaty Act  |
| RIR/IRFA   | regulatory impact review/initial regulatory flexibility analysis |
| SSCEA      | Salmon and Steelhead Conservation and Enhancement Act            |
| SPDT       | Salmon Plan Development Team                                     |
| WCZMP      | Washington Coastal Zone Management Program                       |







## AMENDMENT ISSUE 1 - OREGON COASTAL NATURAL COHO ESCAPEMENT GOAL

This issue examines the concept of adjusting escapement goals for OCN coho in response to expectations of stock abundance. Concerns have been expressed that in years of low abundance short-term socio-economic considerations may not be adequately addressed under the current long-term fixed-level spawning escapement goal. Integral to this issue is how escapement policies can be structured to meet socio-economic considerations and to distribute any short-term hardships created by meeting escapement goals between ocean and inside fisheries.

### Background

The salmon FMP, as amended by the framework amendment in 1984, provides for a specific rebuilding schedule to achieve a spawning escapement goal of 200,000 naturally spawning adult coho for OCN coho stocks by 1987 and every year thereafter. The stock recruitment relationship for coho from Oregon coastal rivers indicates this escapement would approximate MSY of this naturally spawning component of the OPI area (south of Leadbetter Point, Washington) and would contribute to optimizing overall harvest within the OPI area.

OCN coho spawning escapements were severely depressed in the 1970s. Attempting to immediately meet the long-term escapement goal of 200,000 would have had severe socio-economic repercussions. A rebuilding schedule involving a gradual, rather than abrupt, increase in annual escapement goals was chosen to reduce the immediate and temporary negative impacts on ocean fisheries and coastal economies.

The long-term escapement goal and rebuilding schedule for OCN coho were established as management objectives to optimize harvest and escapement under average or normal conditions. However, the recent El Nino event demonstrated that with severely reduced ocean survival it was impossible to even approach average harvest rates and maintain an OCN coho escapement of 200,000. El Nino contributed to the reduction of OCN coho escapement in 1983 to a record low level of 57,000 or 41 percent of the 140,000 goal. Concern exists that under a fixed escapement goal, future natural disasters could preclude an ocean fishery even though hatchery stocks might be relatively abundant. Allowing some specific deviation in the escapement goal at low abundance levels of natural stock might allow some ocean harvest of natural and particularly hatchery coho while still maintaining a sustainable natural population.

In July of 1985, the ODFW submitted a formal proposal to the Council to modify the current framework amendment program in favor of an abundance-dependent spawning escapement goal for OCN coho salmon. This new spawning escapement goal was adopted by the Commission on May 10, 1985.

### Options

The Council proposes consideration of the following management options under Section 3.5.1.1., Columbia River and Oregon coastal, page 3-14 and 3-15 of the final framework amendment to the salmon FMP.





### Option 1 - Status Quo

Retain Section 3.5.1.1. of the framework amendment unchanged in its specification of the OCN coho spawning escapement goal. The text of that section is reproduced below.

The long-term goal for the OPI is to achieve a spawning escapement of 200,000 naturally-spawning adult coho to Oregon coastal streams and to provide for Columbia River treaty obligations, inside non-Indian harvest opportunities, and hatchery requirements. A long-range rebuilding program was initiated for naturally-spawning stocks of Oregon coastal coho in 1979 since these stocks were severely depressed and below optimum escapement levels. The objective of the rebuilding schedule program is to reach the long-term escapement goal for coastal stocks by 1987 and each year thereafter. During the rebuilding phase, brood year escapements will be incrementally increased according to the schedule outlined in Table 3-3.

Table 3-3. Rebuilding schedule for adult escapement of natural spawning stocks of Oregon coastal coho (thousands of fish).

| Cycle | Year of Adult Return |      |      |                      |       |       |       |       |               |       |       |
|-------|----------------------|------|------|----------------------|-------|-------|-------|-------|---------------|-------|-------|
|       | 1979                 | 1980 | 1981 | 1982                 | 1983  | 1984  | 1985  | 1986  | 1987          | 1988  | 1989  |
| 1     | 172                  |      |      | 129                  |       |       | (175) |       |               | (200) |       |
| 2     |                      | 108  |      |                      | (140) |       |       | (170) |               |       | (200) |
| 3     |                      |      | 73   |                      |       | (135) |       |       | (200)         |       |       |
|       | (Completed)          |      |      | (Continuation Phase) |       |       |       |       | (Final Phase) |       |       |

The index ocean escapement goal is derived from the wild coastal goal based on the historical relationship between coastal escapement and index escapement, which will be continually refined.

Following attainment of the long-range goal, the optimum natural spawning escapement goal of 200,000 adults to Oregon coastal streams will become the annual goal. The total OPI ocean escapement goal could be adjusted annually in order to achieve the Oregon coastal escapement goal of 200,000 adult coho which is the key management consideration for this area.

### Option 2 - Abundance Dependent

Delete the present text and Table 3-3 of Section 3.5.1.1. of the framework amendment and replace them with the following text.



The ocean escapement goals for OPI area coho stocks are to achieve a natural spawning escapement of 135,000 to 200,000 adult coho to Oregon coastal streams (depending upon stock abundance as outlined below) and to provide for treaty obligations, inside harvest opportunities, and hatchery requirements.

For OCN coho, the spawning escapement goal is 135,000 for stock sizes of up to 270,000. Between stock sizes of 270,000 and 400,000; the spawning escapement goal will be one-half the stock size. For stock sizes above 400,000, the escapement goal will be 200,000.

Escapement to OPI index areas in any given season is dependent upon the inriver spawning escapement goal for Oregon coastal naturally-spawning coho.

Revise Table 3-2, "Summary of Management Goals for Stocks in the Salmon Management Unit," to reflect the changes made in Section 3.5.1.1.

### Impacts

Escapement goals have been established by the Council to ensure the health and vigor of the stocks which comprise the salmon management unit and to provide sufficient production to meet the Council's harvest management objectives. Either option should adequately protect the viability of the OCN coho stock. When natural stock size is at a low level (135,000 to 400,000), Option 2 could provide some short-term economic and social benefits by allowing an increment of additional harvest (Table 1). This additional harvest would reduce future harvest and could therefore reduce long-term yields from the fishery.

### Biological Impacts

While neither option jeopardizes the productive capability of the natural coho stock or any endangered or threatened species, adoption of Option 2 would require substantial revision of the present methodology for developing management regimes for the OPI. Current procedures specified in the framework plan depend upon: (1) estimation of total OPI abundance based upon jacks observed at certain index areas and (2) relationships between natural escapement to Oregon coastal streams and total ocean escapement to OPI index areas. Under Option 2, stock abundance predictions would have to be made for each component of the OPI separately. In particular, a reliable methodology to predict the abundance of OCN coho stocks would have to be developed. In addition, a more complex method of regulatory analysis would be required to assess potential time-area differences in stock impacts.

Appendix 1 of ODFW's Coho Salmon Plan (1982) provides a detailed review of the OCN coho production relationship and estimates that a spawning escapement of 200,000 adults is required to provide for MSY. The spawning escapement floor proposed in Option 2 of 135,000 adults, while below the MSY level, is still well above the record low escapement of 57,000 which produced the estimated 1986 stock abundance of about 286,000 adults. Since 1969, this stock has rebounded nine times from levels below 135,000. No recorded spawning escapement between 135,000 and 57,000 has ever produced a diminishing return.



Table 1. Escapement goal and allowable catch for OCN coho with Option 1 and Option 2 under selected natural coho stock sizes.

| OCN<br>Stock<br>Size  | Option 1 (Status Quo) |         | Option 2 (Abundance Dependent) |         |
|-----------------------|-----------------------|---------|--------------------------------|---------|
|                       | Escapement<br>Goal    | Catch   | Escapement<br>Goal             | Catch   |
| 100,000               | 200,000               | 0       | 135,000                        | 0       |
| 135,000               | 200,000               | 0       | 135,000                        | 0       |
| 150,000               | 200,000               | 0       | 135,000                        | 15,000  |
| 200,000               | 200,000               | 0       | 135,000                        | 65,000  |
| 231,000 <sup>a/</sup> | 200,000               | 31,000  | 135,000                        | 96,000  |
| 250,000               | 200,000               | 50,000  | 135,000                        | 115,000 |
| 300,000               | 200,000               | 100,000 | 150,000                        | 150,000 |
| 350,000               | 200,000               | 150,000 | 175,000                        | 175,000 |
| 400,000               | 200,000               | 200,000 | 200,000                        | 200,000 |
| >400,000              | 200,000               | b/      | 200,000                        | b/      |

a/ Stock size used in Table 2 for economic impact analysis.

b/ Catch equal to difference between OCN stock size and 200,000 escapement goal.



Increased flexibility to respond to socio-economic concerns at OCN coho stock sizes below 400,000 would be gained at the cost of lower future production. At these low stock sizes, the average production from OCN coho stocks would be reduced below that resulting from the current escapement policy. The extent to which production can be expected to be reduced in the long term cannot be determined at this time.

#### Socio-Economic Impacts

To establish an estimate of the difference in socio-economic benefits between Option 1 and Option 2, a scenario of low OCN abundance compared to other OPI stocks, similar to but not identical to that predicted in 1986, was utilized. An OCN abundance level of 231,000 was chosen as a realistic "worst case" scenario where the differential between options would be the greatest. Calculation of economic benefits was then performed for the allowable fisheries in the initial year of low return (Year 1) and three years later (Year 4) when the resulting progeny of the spawning escapement from this group entered the fishery as adults.

For the two separate years of harvest analyzed under each option, the final NEV over all areas and fisheries (sport and commercial) with the change in goals (Option 2) is positive by \$1,112,000 to \$1,234,000 depending on the discount rate used. Details of the increases or decreases by specific fishery are provided in the RIR/IRFA and Table 2. Changes in local personal income follow the same trends as predicted for NEV with an estimated increase of \$1,584,000 to \$1,718,000.

#### Interaction With Other Amendment Issues

Interaction exists between Issues 1 and 3 (Allocation of Allowable Ocean Harvest of Coho Salmon South of Cape Falcon) which affects calculation of the economic impacts in Issue 1. This fact is accounted for with alternative analyses in the RIR/IRFA. The greatest economic benefits for Issue 1 are achieved by selecting the alternatives to the status quo in both Issue 1 and Issue 3.

#### Recommendation

**The Council recommends Option 2.** Based on its understanding of the MFCMA mandate to manage ocean fisheries to achieve the OY while preventing overfishing (National Standard 1), the Council adopted a 1986 OCN coho escapement goal which was below the framework rebuilding goal of 170,000. Determining the actual OY each year is a difficult task which often contains considerable controversy and resulted in a legal challenge in 1986. A fixed escapement goal (Option 1) provides no guidance for the Council in determining OY. Option 2 provides one approach to OY that is easily understood by the user groups. Upon analysis, Option 2 provides a modification to MSY based on economic, social, and ecological considerations (i.e., increased NEV and preservation of the fishing industry when stock abundance has been decreased by ecological factors). At the same time, Option 2 establishes a lower limit (escapement floor of 135,000) to assure that the stock is not overfished and can quickly rebound to an MSY production level.





Table 2. Estimated changes in NEV over the two period cycle resulting from change in escapement policy (Option 2-Option 1) (thousands of dollars). Discounted at 4 and 10 percent. Based on an OCN coho stock abundance in Year 1 of 231,000 coho.

| Catch Area                | Year 1     |        | Year 4     |      |              |       | Net        |       |              |      |
|---------------------------|------------|--------|------------|------|--------------|-------|------------|-------|--------------|------|
|                           | Commercial |        | Commercial |      | Recreational |       | Commercial |       | Recreational |      |
|                           | 4%         | 10%    | 4%         | 10%  | 4%           | 10%   | 4%         | 10%   | 4%           | 10%  |
| North of Leadbetter Point | - 355      | -1,570 | 354        | 299  | 1,562        | 1,320 | - 2        | - 57  | - 7          | -249 |
| North of Cape Falcon OPI  | 284        | 1,153  | -122       | -103 | - 495        | - 418 | 162        | 181   | 659          | 736  |
| South of Cape Falcon      | 1,969      | -      | -841       | -711 | - 19         | - 16  | 1,128      | 1,258 | - 19         | - 16 |
| Columbia River            | -1,041     | -      | 355        | 300  | -            | -     | - 686      | -     | -            | -    |
| Total                     | 857        | - 416  | -254       | -215 | 1,048        | 886   | 602        | 642   | 632          | 470  |



Under Option 2, the description of methodology to estimate coho abundance south of Leadbetter Point, Washington should be deleted from the framework regulations. The methodology currently in the regulations was used to estimate abundance of total coho stocks in the area, and not the abundance of OCN coho stocks. With advice from its scientific advisors, the Council will choose the best scientific methodology to estimate OCN coho abundance each year and use that estimate to determine the escapement goal for the upcoming season.

#### References

##### FMP Reference

Table 3-2 and Section 3.5.1.1 Final Framework Amendment for Managing the Ocean Salmon Fisheries Off the Coasts of Washington, Oregon, and California Commencing in 1985:3-11 through 3-15.

##### Regulations

50 CFR Part 661, Appendix Sections II and IV.



## AMENDMENT ISSUE 2 - INSEASON MANAGEMENT ACTIONS AND PROCEDURES

This issue examines the need to modify and supplement inseason management provisions authorized by the ocean salmon FMP.

### Background

#### Framework Inseason Management Provisions

The framework amendment to the FMP (49 FR 43679, October 31, 1984) provided authority to make certain inseason modifications to the ocean salmon regulations when necessary to facilitate meeting the objectives of the FMP. Inseason management provisions authorized by the FMP fall into two categories, fixed or optional.

#### Fixed Provisions

The first category consists of fixed or automatic actions to be taken under specified conditions. These actions include the following:

- ° automatic closure of a fishery when it is projected that a quota has been or will be met
- ° rescission of an automatic closure, to reopen a fishery for all or part of the remaining original season, when it is found that the actual catch was overestimated and the quota had not been reached
- ° adjustments to seasons and/or quotas when significant computational error(s) made in calculating preseason abundance estimates are identified

#### Optional Provisions

The second category consists of optional actions which the Council may elect annually to use. During the preseason process of setting regulations, the Council reviews the information available and possible uncertainties inherent in the data, and anticipates inseason actions which may be required during the season. The Council may authorize the use of one or more of the following rather specific types of inseason modifications to the regulations.

1. Modification to coho quotas and seasons based on inseason reassessment of private hatchery contributions.
2. Modification to commercial coho quotas and seasons based on inseason assessment of coho hooking mortality during all-species seasons.
3. Modification to quotas and seasons based on inseason revisions to abundance estimates.
4. Reduction in quotas and seasons due to unanticipated salmon catches in the territorial sea.
5. Redistribution of quotas to achieve an overall quota.



6. Boundary modification to promote attainment of quotas.
7. Modification of recreational daily bag limits.

#### Inseason Management Problems Experienced in 1985

The Council authorized the use of all seven optional inseason management provisions in 1985, if conditions warranted. In addition, the Council requested, and the Secretary approved, an emergency regulation (50 FR 31847, August 7, 1985) to make an eighth inseason management action available for use in 1985 as provided below.

8. Modification of the number of allowable days of recreational fishing per week.

This temporary inseason provision was used twice during the year before it automatically expired on October 31, 1985.

The eight optional provisions, on the surface, appear to provide considerable flexibility for inseason management. Based on the 1985 experience, however, several of the eight provisions proved to be too narrow in their scope and intent. Others remain unclear about what modifications can and cannot be made under them. As a result, several recommendations of the Council, SPDT, and/or states could not be implemented through a change in the federal regulations in 1985. Some of these recommendations were adopted through state landing laws in lieu of changes in the federal regulations. In about half of those cases, the scope and intent of the inseason management provisions were unclear, and an inseason interpretation was made by NMFS and NOAA General Counsel to determine whether a particular recommendation could be implemented by existing authority.

Table 3 lists Council recommendations made during the 1985 fishing season and indicates whether there was clear authority to implement the recommendation or whether interpretation was necessary, and what inseason management provision or other authority was used if the recommendation was implemented. As can be seen, of the thirteen recommendations for inseason action, only three could be implemented without extensive interpretation of the framework FMP authority. Even after such interpretation, three recommendations could not be implemented federally.

The following conclusions can be drawn from our experience gained prior to 1986 in the use of inseason management provisions of the FMP.

- ° The scope and extent of inseason management authority should be clearer.
- ° The scope and extent of the inseason management authority should be broader to accommodate variations in the fishery.
- ° Inseason management authority should not require data and analysis beyond that which is available within the time frame and capability of the existing data system.





Table 3. The 1985 inseason management actions recommended by the Council. (Routine season openings and closings based on fixed provisions are not included.)

| Description of Recommendation   | Inseason Provision or Other Authority Used  |
|---|---|
| <u>Adjustment of Fishing Weeks</u>  |   |
| Close Mondays and Tuesdays of each week from August 2 through August 28 in recreational fishery Oregon-California border to Point Delgada.  | Clearly authorized and implemented by emergency federal regulations.  |
| Increase number of allowable fishing days per week from 5 to 7 days in the recreational fishery Queets River to Leadbetter Point.   | Clearly authorized by above emergency federal regulation. Implemented by inseason notice.   |
| <u>Modification of Gear Restrictions</u>  |   |
| Establish barbless hook regulation in the commercial fishery north of Carroll Island beginning August 3.  | No authority to implement by federal regulation.  |
| <u>Modification of Species Allowed to be Landed</u>   |   |
| Prohibit landing of coho salmon during the August 3 through August 31 commercial fishery north of Carroll Island.   | Interpreted to be authorized by FMP provision allowing redistribution of quotas to achieve an overall quota. Implemented by inseason notice.  |
| <u>Establishment or Modification of Fishing Limits</u>  |   |
| Establish a pink salmon quota of 200,000 fish for the commercial fishery north of Carroll Island.   | No authority to implement by federal regulation; implemented hooking mortality limitation instead.  |
| Establish a hooking mortality limitation of 7,500 coho for the commercial fishery north of Carroll Island.  | Interpreted to be authorized by FMP provision allowing modification to the commercial coho quotas and seasons based on inseason assessment of coho hooking mortality during all-species season. Implemented by inseason notice. |
| Trade 3,000 coho from a recreational subarea quota for 750 chinook from a commercial subarea quota.   | Clearly authorized and implemented by inseason notice.  |
| Transfer 4,800 chinook, minus 750 chinook traded to the recreational fishery, from Cape Alava to Leadbetter Point commercial fishery to the commercial fishery north of Carroll Island; apportion this between harvest quota (760) and hooking mortality (3,290). | Interpreted to be authorized by FMP provision allowing redistribution of quotas to achieve an overall quota. Implemented by inseason notice.  |
| Reduce coho quota for the commercial fishery north of Carroll Island from 31,200 fish to zero.  | Interpreted to be authorized by FMP provision allowing redistribution of quotas to achieve an overall quota. Implemented by inseason notice.  |
| Reduce coho quota for the commercial fishery off Columbia River from 32,000 to 10,000 fish.   | Interpreted to be authorized by FMP provision allowing redistribution of quotas to achieve an overall quota. Implemented by inseason notice.  |
| <u>Establishment of Limited Retention Regulations</u>   |   |
| Limit chinook retention to 1 chinook for each 20 pink salmon harvested in the commercial fishery north of Carroll Island.   | No authority to implement by federal regulation.  |
| <u>Modification of Management Boundaries and Closed Areas</u>   |   |
| Move northern boundary of the commercial fishery on August 21 from Leadbetter Point to the Red Buoy Line south of the Columbia River.   | Interpreted to be authorized by FMP provision allowing boundary modification to promote attainment of quotas. Implemented by inseason notice.   |
| <u>Modification of Seasons</u>  |   |
| Make the commercial season off the Columbia River mouth a 1 day fishery on August 21.   | Interpreted to be authorized by FMP provision allowing automatic season closures based on quotas. Implemented by inseason notice.   |



- ° Inseason management actions should not overtax the managers' capabilities for timely processing and implementing actions, advising affected persons of the actions taken, and effectively ensuring compliance with the changing regulations.
- ° Inseason management authority should not be used to short circuit the amendment process when the latter action is more appropriate or required.

#### Description of 1986 Inseason Management

As a result of problems experienced under the framework inseason management provisions, the Council recommended that increased inseason management flexibility be tested during the 1986 season. An emergency rule similar to that proposed as Option 2 was implemented, and proved to be more responsive to the changing biological, social, and economic conditions of the fishery. Twenty-seven inseason actions were taken during the season.

Under the framework inseason management provisions, coho quotas were greatly exceeded coastwide in 1985. Preliminary information indicates that the increased inseason management flexibility in 1986 was at least partially responsible for 1986 coastwide coho landings being within one percent of quotas.

#### Options

The two inseason management options being considered by the Council for this FMP amendment are described below and compared at the end of this section in Table 4. The Council also reviewed a third option which reduced inseason management flexibility. This option was dropped from consideration since the problems associated with inseason management have all resulted from a lack of flexibility, not from too much.

#### Option 1 - "Nearly" Status Quo

Under this option, the fixed provisions and seven optional inseason management provisions described above would remain as they were during the 1985 season. In addition, an eighth provision would provide on a permanent basis for the modification of allowable recreational fishing days per week. A ninth provision would be added to allow modifications to gear restrictions during the season.

Under this option, fishery managers must determine that the change is consistent with ocean escapement goals, conservation of the salmon resource, any adjudicated Indian fishing rights, and the ocean allocation scheme in the framework amendment in order to make an inseason adjustment. Additional factors for consideration and criteria to be met before taking action under each inseason provision are described in Table 5.

#### Option 2 - Status Quo for Fixed Provisions and Additional or More Flexible Provisions

Under this option, the fixed provisions would remain as they are currently. New flexible provisions would allow any inseason adjustment as long as it met the criteria and included consideration of the factors listed below.



Table 4. Comparison of options for inseason management provisions. (This table indicates which provisions are included under each option.)

|   | Option 1              | Option 2              |
|---|-----------------------|-----------------------|
| <b>FIXED PROVISIONS</b>   |                       |                       |
| Automatic season closures based on quotas   | Yes                   | Yes                   |
| Rescission of automatic closure   | Yes                   | Yes                   |
| Adjustment for error in preseason estimate  | Yes                   | Yes                   |
| <b>FLEXIBLE PROVISIONS</b>  |                       |                       |
| <u>Changes to Quotas and/or Fishing Seasons</u>   | a/                    | b/                    |
| Based on inseason assessment of private hatchery coho contributions   | Yes                   | Yes                   |
| To commercial coho quotas/seasons based on inseason assessment of coho hooking mortality during all-species seasons | Yes                   | Yes                   |
| Based on inseason revisions to abundance estimates  | Yes <sup>c/</sup>     | Yes <sup>c/</sup>     |
| Reduction in quotas/seasons due to unanticipated salmon catches in the territorial sea                              | Yes                   | Yes                   |
| Redistribution of quotas  | Limited <sup>d/</sup> | Limited <sup>d/</sup> |
| Establishment of quotas   | No                    | Yes                   |
| Closure to evaluate landings  | No                    | Yes                   |
| Establishment of hooking mortality and total allowable impact limitations   | No                    | Yes                   |
| <u>Changes in Allowable Species</u>   |                       |                       |
| Changes in the salmon species which may be landed during specific seasons   | No                    | Yes                   |
| Establishment of limited retention regulations  | No                    | Yes                   |
| <u>Changes in Management Areas</u>  |                       |                       |
| Establishment and modification of management boundaries   | Limited <sup>e/</sup> | Yes                   |
| Establishment and modification of closed areas  | No                    | Yes                   |
| <u>Other Changes</u>  |                       |                       |
| Modification of recreational daily bag limits   | Yes                   | Yes                   |
| Adjustment of the recreational fishing week   | Yes                   | Yes                   |
| Changes in gear restrictions  | Yes                   | Yes                   |

- a/ The Council would decide during preseason deliberations which of the optional provisions could be employed during the season.
- b/ Under this option, whatever inseason adjustments are necessary to achieve management objectives would be permitted as long as specified criteria and considerations listed in the option description are met.
- c/ Management actions based on an inseason revision to abundance estimates are dependent on development of a Council approved methodology for inseason abundance estimation.
- d/ Quotas could be redistributed between recreational and commercial fisheries if the timing and procedure are described in preseason regulations. If total quotas or total impact limitations by fishery are established, subarea quotas north and south of Cape Falcon, Oregon can be redistributed within the same fishery. Other redistributions of quotas would not be authorized because they would not meet the criteria for inseason management actions.
- e/ Management boundaries may be adjusted only to "promote attainment of quotas."



Table 5. Factors to consider and criteria to meet to take action under framework inseason provisions. (This table summarizes 49 FR 43679, which implemented the framework salmon amendment in 1984.)<sup>a/</sup>

| Inseason Provision                               | Factors to be Considered   | Criteria to be Met  |
|--|--|---|
| <b>Changes to Quotas and/or Fishing Seasons:</b> |  |   |
| Private Hatchery Contributions                   | The estimated contributions of private hatchery coho, taking into account coded-wire tag and/or scale analysis data gathered during the season.  | The contribution of private hatchery coho varies from the preseason estimates.  |
| Coho Hooking Mortality                           | Estimated number of coho salmon that will be hooked and released during the all-species seasons.   | The estimates made approximately halfway through each regularly scheduled all-species season differ from the estimates made during preseason deliberations.   |
| Revised Abundance Estimates                      | (1) The number of participants, level and distribution of fishing effort, and salmon catches of the commercial and recreational fisheries compared to data from the same management area for similar time periods in prior years; (2) variations between preseason abundance estimates for the same area and abundance estimates as of the same date in prior years; (3) data from marked fish recoveries, including analysis of recoveries of coho salmon with implanted coded wire tags; and (4) any other scientific information relevant to the abundance and distribution of salmon stocks, total fishing effort and catches that is available. | Actual conditions of abundance and distribution of salmon, and of fishing effort and catches differ from conditions anticipated prior to the all-species season in the pertinent management area. In addition, any inseason modification of salmon abundance estimates and related quotas and seasons will be consistent with ocean escapement goals, conservation of the salmon resource, any adjudicated Indian fishing rights, and the ocean allocation scheme in the framework FMP. |
| Catches in Territorial Sea                       | Salmon catches in the territorial sea.   | Salmon catches have occurred in the territorial sea or a portion thereof which were not accounted for when the federal quotas and seasons were established and which may cause the federal quotas or the anticipated catch during the federal seasons to be exceeded.   |





Table 5. (continued)

| Inseason Provision           | Factors to be Considered  | Criteria to be Met  |
|------------------------------|---|---|
| Redistribution of Quotas     | None specified.   | (1) Redistribution between the commercial and recreational fisheries, or between areas in the same fishery, will increase the likelihood that an overall quota for a species will be achieved; (2) redistribution is consistent with ocean escapement goals, conservation of the salmon resource and any adjudicated Indian fishing rights; and (3) the redistribution is consistent with the ocean allocation scheme in the framework FMP.   |
| Boundary Modifications       | None specified.   | One of the following circumstances exists: (1) a quota for one species will be reached before a quota for a different species in the same area, and the likelihood that the two quotas will be reached at or near the same time will be increased by modifying existing boundaries, and (2) attainment of a quota is jeopardized by an unanticipated shift in the location of the stocks or fishery to which it applies. In addition, the boundary modification must be consistent with ocean escapement goals, conservation of the salmon resource, any adjudicated Indian fishing rights, and the ocean allocation scheme in the framework FMP. |
| Recreational Daily Bag Limit | (1) Predicted sizes of salmon runs; (2) apparent actual sizes of salmon runs; (3) recreational quota for the area; (4) amount of the recreational, commercial, and treaty Indian catch of each species in the area to date; (5) amount of the recreational, commercial, and treaty Indian fishing effort in the area to date; (6) estimated average daily catch per fisherman; (7) predicted recreational fishing effort for the area to the end of the scheduled season; and (8) other factors as appropriate. | Any change in the recreational daily bag limit must be consistent with ocean escapement goals, conservation of the salmon resource, any adjudicated Indian fishing rights, and the ocean allocation scheme in the framework FMP.  |

a/ In addition to the factors and criteria listed in this table, all changes to quotas and/or fishing seasons can only be made when the Council has determined during the preseason regulatory process that (1) scientifically valid procedures can be used during the season to take the inseason action and (2) such adjustments would not significantly increase the risk of not meeting the Council's management objectives.



As in Option 1, fishery managers must determine that any inseason adjustment in management measures is consistent with ocean escapement goals, conservation of the salmon resource, any adjudicated Indian fishing rights, and the ocean allocation scheme in the framework FMP. In addition, all inseason adjustments would be based on consideration of the following factors rather than the limited set of factors accompanying each measure in Table 5.

- ° Predicted sizes of salmon runs.
- ° Harvest quotas and hooking mortality limits for the area and total allowable impact limitations if applicable.
- ° Amount of the recreational, commercial, and treaty Indian fishing effort and catch for each species in the area to date.
- ° Estimated average daily catch per fisherman.
- ° Predicted fishing effort for the area to the end of the scheduled season.
- ° Other factors as appropriate.

All flexible inseason provisions under this option must take into consideration the factors and criteria listed above and would include, but not be limited to, the following.

1. Modification of quotas and/or fishing seasons would be permitted. This flexibility would allow redistribution of quotas in certain circumstances (see Table 4 footnote "d"), establishment of new quotas and/or seasons, and establishment of or changes to hooking mortality and/or total allowable impact limitations during the season. Action based on revision of preseason abundance estimates during the season would be dependent on development of a Council approved methodology for inseason abundance estimation.
2. Modifications in the species which may be caught and landed during specific seasons and the establishment or modification of limited retention regulations would be permitted (e.g., changing from an all-species season to a single-species season, or requiring a certain number of one species to be caught before a certain number of another species can be retained).
3. Changes in the recreational bag limits and recreational fishing days per calendar week would be allowed.
4. Establishment or modification of gear restrictions would be authorized.
5. Modification of boundaries, including landing boundaries, and establishment of closed areas would be permitted.

This option would provide fishery managers with more flexibility to adjust regulations inseason as information became available. It would result in more timely and appropriate inseason actions to fit the particular circumstances



and protect weaker stocks while maximizing the yield of the fisheries and allocating that yield among fishery participants. The narrow wording of the framework provisions would be eliminated and in its place broader authority would be provided. Based on available inseason data, fishery managers could take whatever inseason action is appropriate, providing the actions are consistent with the criteria specified and that all factors listed are considered. **Along with increased inseason management flexibility goes the responsibility to assure that affected users are adequately informed and have had the opportunity for input into potential inseason management changes.**

### Impacts

#### Biological Impacts

There should be no negative impacts on salmon stocks or the environment under Options 1 and 2, since all inseason actions would be consistent with ocean escapement goals and conservation objectives. Positive effects on the resource may result from increased ability to make timely regulatory changes to protect weak stocks or mitigate overharvest, particularly under Option 2.

#### Socio-Economic Impacts

Except in rare instances when fisheries are reduced, there should be few negative impacts on fishery participants under Options 1 and 2, since all inseason actions would be consistent with adjudicated Indian fishing rights and allocation guidelines specified in the FMP. Positive impacts could result because inseason management provisions under these options would permit adjustments that would allow fishermen to more fully utilize the harvestable surplus from stronger stocks and reduce the harvest of those weaker stocks needing protection. The greater flexibility of Option 2 would allow inseason changes to be tailored for nearly any situation while Option 1 would be more limited.

Inseason management actions require timely inseason data, and often telephone conference meetings, and other costly, time-consuming activities on the part of fishery managers. Notices of inseason changes must be disseminated promptly to fishery participants and timing of implementation must be coordinated among enforcement agencies. The more regulatory changes made during a season; the higher the cost of management. However, amending a FMP based on yearly variations in the need for inseason provisions is also costly and time consuming.

Option 1 would incur similar or perhaps even higher costs as inseason management in the past and may include a high probability that a FMP amendment would be required in the future when more experience has been obtained. Option 2 would allow for more inseason actions but would reduce the need for further FMP amendments. Also, under Option 2 there would be less need of a full emergency Council meeting to resolve an unanticipated inseason management problem.

#### Interaction With Other Amendment Issues

There is no interaction between Issue 2 and any of the other issues in this amendment. Option 2 of Issue 3 requires the redistribution of quotas inseason between recreational and troll fisheries to achieve its maximum benefits. Both options, as written, allow for this action.



### Recommendation

**The Council recommends Option 2.** Based on experience gained in the past three salmon seasons, anything less flexible than Option 2 would only result in the need for further FMP amendment or emergency action in the near future. The results of the emergency inseason rule in 1986 proved to be very beneficial and the process quite workable.

### References

#### FMP Reference

Section 3.12 Final Framework Amendment for Managing the Ocean Salmon Fisheries Off the Coasts of Washington, Oregon, and California Commencing in 1985: 3-73 through 3-76.

#### Regulations

50 CFR Part 661.21(b) and Appendix III.B. through III.F.





AMENDMENT ISSUE 3 - ALLOCATION OF ALLOWABLE OCEAN HARVEST OF  
COHO SALMON SOUTH OF CAPE FALCON

Allocation of harvest among recreational and commercial fishermen is a very critical management decision which is particularly sensitive when resource abundance is low as it has been for OPI area coho stocks in recent years. The basis for any Council approved allocation scheme must be fair and equitable as set forth in the fourth national standard of the MFCMA which states:

"Conservation and management measures shall not discriminate between residents of different states. If it becomes necessary to allocate or assign fishing privileges among various U.S. fishermen, such allocation shall be (A) fair and equitable to all such fishermen; (B) reasonably calculated to promote conservation; and (C) carried out in such manner that no particular individual, corporation, or other entity acquires an excessive share of such privileges."

Background

In determining the present framework allocation scheme for coho harvests south of Cape Falcon, the Council selected from among three options. The option chosen is based on historic shares taken by recreational and commercial fishermen in the 1966-1978 time period for total allowable harvests of 700,000 coho and above. For total allowable harvests below 700,000, deviation from the established 1966-1978 traditional allocation principle may be considered to minimize hardship to either troll or recreational fisheries.

During the reduced coho fishery seasons of recent years, it has become obvious that the present recreational allocation may not allow for a Memorial Day to Labor Day season, in those areas which close when the quota is met, even with substantial stock increases. In 1985, the recreational fishery south of Cape Falcon took 167,000 coho between July 1 and Labor Day on a total allowable harvest of 225,000. At a total allowable harvest level of 700,000, the current allocation schedule would allow only 174,300 coho to the recreational fishery. Because of the dynamic nature of both the sport and commercial fisheries and their distinct and important contributions to coastal, regional, and national economies; concern has arisen that the present allocation schedule based on the 1966-1978 period does not reflect an equitable or optimum harvest allocation for the future.

On May 31, 1985 in response to these concerns, the Commission directed the preparation of a report on economic and other information which would be useful in developing an explicit policy on the sport and commercial allocation of coho salmon in the ocean fisheries. On January 24, 1986, following extensive public review of this report, the Commission requested the Oregon Coastal Zone Management Association convene a group representing recreational and commercial users to develop a new allocation schedule which more adequately reflected the socio-economic needs of the coastal communities and the user groups. On February 20, 1986, the Commission approved a new allocation schedule developed by the user groups. This schedule increases the allocation of total allowable ocean harvest to the recreational fishery while



assuring sufficient hooking mortality set-aside for the directed commercial chinook fishery. The essence of that user agreement, modified by a technical adjustment to the allocation schedule and formula made by the user representatives on April 17, 1986, is contained in Option 2 below.

It should be noted that there is no established allocation scheme for chinook salmon south of Cape Falcon, and none is proposed in this amendment. Quotas were established between Cape Blanco and Point Delgada in 1986 to protect Klamath River fall chinook. The 1986 chinook quotas were recommended by the Klamath River Salmon Management Group (KRSMG), an advisory group of managers of both ocean and inriver Indian and non-Indian fisheries. The KRSMG is continuing to meet to negotiate a harvest rate allocation formula for Klamath River fall chinook stocks. The ocean salmon plan may be amended in the future to include a chinook allocation scheme approved by the Council.

### Options

#### Option 1 - Status Quo

Retain the present harvest allocation in Option 3 under "South of Cape Falcon: (Coho)" in Section 3.7.1.1. of the framework amendment as reproduced below.

The allocation of allowable ocean harvest of coho salmon for 700,000 fish and above, south of Cape Falcon, will be based on the historic catch pattern for the period 1966-1978. Allocation percentages will be calculated, including California catches. The 1966-1978 base period used encompasses the period of increased fishing effort and significant contribution of hatchery fish to the catch. Also, it is prior to the period of increasing regulation which altered historic allocation patterns. The allocations for a range of allowable ocean harvest of coho are provided in Table 6.

If total allowable ocean harvest of coho is below 700,000, deviation from the established 1966-1978 allocation principle may be considered to minimize hardship to either troll or recreational fisheries. Allocation percentages under these circumstances shall be determined by the Council considering the following criteria.

1. Establishment of subarea quotas (e.g., transferring allowable catch to subareas).
2. Directed chinook-only fisheries with incidental coho allowances.
3. Other modifications in management measures which take into account relative impacts of troll and recreational gear on viable natural (controlling) stocks.



Table 6. Allocations for a range of allowable ocean harvest of coho salmon south of Cape Falcon.

| Allowable<br>Ocean Harvest<br>of Coho<br>(thousands of fish) | Commercial            |                          | Recreational          |                          |
|--|-----------------------|--------------------------|-----------------------|--------------------------|
|  | Number<br>(thousands) | Percentage <sup>a/</sup> | Number<br>(thousands) | Percentage <sup>a/</sup> |
| > 2,500  | 2,150.0               | 86.0                     | 350.0                 | 14.0                     |
| 2,400  | 2,056.8               | 85.7                     | 343.2                 | 14.3                     |
| 2,300  | 1,964.2               | 85.4                     | 335.8                 | 14.6                     |
| 2,200  | 1,874.4               | 85.2                     | 325.6                 | 14.8                     |
| 2,100  | 1,780.8               | 84.8                     | 319.2                 | 15.2                     |
| 2,000  | 1,690.0               | 84.5                     | 310.0                 | 15.5                     |
| 1,900  | 1,597.9               | 84.4                     | 302.1                 | 15.9                     |
| 1,800  | 1,506.6               | 83.7                     | 293.4                 | 16.3                     |
| 1,700  | 1,416.1               | 83.3                     | 283.9                 | 16.7                     |
| 1,600  | 1,324.8               | 82.8                     | 275.2                 | 17.2                     |
| 1,500  | 1,234.5               | 82.3                     | 265.5                 | 17.7                     |
| 1,400  | 1,145.2               | 81.8                     | 251.8                 | 18.2                     |
| 1,300  | 1,056.0               | 81.2                     | 244.0                 | 18.8                     |
| 1,200  | 966.0                 | 80.5                     | 234.0                 | 19.5                     |
| 1,100  | 876.7                 | 79.7                     | 223.3                 | 20.3                     |
| 1,000  | 788.0                 | 78.8                     | 212.0                 | 21.2                     |
| 900  | 699.3                 | 77.7                     | 200.7                 | 22.3                     |
| 800  | 612.0                 | 76.5                     | 188.0                 | 23.5                     |
| 700  | 525.7                 | 75.1                     | 174.3                 | 24.9                     |
| 600  | 430.0                 | 71.1                     | 170.0                 | 28.3                     |
| 500  | 330.0                 | 66.0                     | 170.0                 | 34.0                     |
| 400  | 230.0                 | 57.5                     | 170.0                 | 42.5                     |
| 300  | 130.0                 | 43.3                     | 170.0                 | 56.7                     |
| 200  | 30.0                  | 15.0                     | 170.0                 | 85.0                     |
| < 100  | b/<br>b/              | b/<br>b/                 | 100.0                 | approx 100.0             |

a/ For allowable coho harvests of 700,000 and above, the allocations shall be interpolated linearly between the numbers shown.

b/ Incidental coho allowance associated with directed chinook fishery would be deducted from recreational catch. Incidental allowances could be in the form of estimated hooking mortality or actual landing allowance.



Within the allocations established, the catch shall be maximized, to the extent possible, consistent with inside fishery needs and spawning requirements. At catch levels below 170,000, the total allocation of coho will be shifted to the recreational fishery except for an incidental coho allowance for the troll fishery associated with directed chinook-only fisheries which would be programmed to minimize impacts on coho. The incidental coho allowance could be in the form of an estimated hooking mortality or an actual landing allowance.

The total allowable ocean harvest of the OPI area will be partitioned into two major areas: (1) Leadbetter Point to Cape Falcon and (2) south of Cape Falcon. The allowable harvest south of Cape Falcon may be further partitioned into subareas to meet management objectives of the plan.

Allowable harvests for subareas south of Cape Falcon will be determined by an annual blend of management considerations including:

1. controlling ocean harvest impacts on depressed, viable natural stocks within acceptable maximum allowable levels, as determined by the Council's guidelines
2. stock abundance
3. allocation considerations of concern to the Council
4. stock specific impacts within a species
5. relative abundance of chinook and coho in the fishery
6. escapement goals
7. maximizing harvest potential

Troll coho quotas may be developed from the Oregon-California border to the management boundary separating Sacramento and Klamath river chinook stocks, or for other subareas south of Cape Falcon consistent with the above criteria. California recreational catches of coho would be included in the recreational quota south of Cape Falcon, but the area south of Oregon-California border would not close when the quota is met. Beyond this, no specific allocation between troll and recreational fisheries is proposed for California.





Option 2 - Proposed User Group Agreement Approved by the Commission

Adopt a new allocation schedule for allowable ocean harvest south of Cape Falcon under Section 3.7.1.1. as provided below.

The allocation of allowable ocean harvest of coho salmon south of Cape Falcon has been developed to provide a more stable recreational season and increased economic benefits of the ocean salmon fisheries at varying stock abundance levels. When coupled with various recreational harvest reduction measures or the timely transfer of unused recreational allocation to the commercial fishery, the allocation schedule is designed to help secure recreational seasons extending at least from Memorial Day through Labor Day, assist in maintaining commercial markets even at relatively low stock sizes, and fully utilize available harvest. Total ocean catch of coho south of Cape Falcon will be treated as a quota to be allocated between troll and recreational fisheries as provided in Table 7.

The allocation schedule is designed to give sufficient coho to the recreational fishery to increase the probability of attaining no less than a Memorial Day to Labor Day season as stock sizes increase. This increased allocation means that in many years actual catch in the recreational fishery may fall short of its allowance. In such situations, managers will reallocate inseason unneeded recreational coho to the south of Cape Falcon troll fishery. This "roll-over" process will occur near the first of August and will involve projecting the recreational fishery needs for the latter half of the summer season. The exact timing of the "roll-over" projection will be established in the preseason regulation setting process each year.

The allocation schedule is also designed to assure there are sufficient coho allocated to the troll fishery at low stock levels to ensure a full chinook troll fishery. This hooking mortality allowance will have first priority within the troll allocation. If the troll allocation is insufficient for this purpose, the remaining number of coho needed for the estimated incidental coho mortality will be deducted from the recreational share. At higher stock sizes, directed coho harvest will be allocated to the troll fishery after hooking mortality needs for chinook troll fishing have been satisfied.

The allowable harvest south of Cape Falcon may be further partitioned into subareas to meet management objectives of the FMP. Allowable harvests for subareas south of Cape Falcon will be determined by an annual blend of management considerations including:



Table 7. Allocation of allowable south of Cape Falcon ocean harvest of coho (thousands of fish).<sup>a/</sup>

| Total<br>Allowable<br>Ocean Harvest | Recreational Allocation |                   | Commercial Allocation |                  |
|-------------------------------------|-------------------------|-------------------|-----------------------|------------------|
|                                     | Number                  | Percentage        | Number                | Percentage       |
| 100                                 | 100 <sup>b/</sup>       | 100 <sup>b/</sup> | -                     | -                |
| 200                                 | 167 <sup>b/</sup>       | 84 <sup>b/</sup>  | 33 <sup>b/</sup>      | 17 <sup>b/</sup> |
| 300                                 | 200                     | 67                | 100                   | 33               |
| 350                                 | 217                     | 62                | 133                   | 38               |
| 400                                 | 224                     | 56                | 176                   | 44               |
| 500                                 | 238                     | 48                | 262                   | 52               |
| 600                                 | 252                     | 42                | 348                   | 58               |
| 700                                 | 266                     | 38                | 434                   | 62               |
| 800                                 | 280                     | 35                | 520                   | 65               |
| 900                                 | 290                     | 32                | 610                   | 68               |
| 1,000                               | 300                     | 30                | 700                   | 70               |
| 1,100                               | 310                     | 28                | 790                   | 72               |
| 1,200                               | 320                     | 27                | 880                   | 73               |
| 1,300                               | 330                     | 25                | 970                   | 75               |
| 1,400                               | 340                     | 24                | 1,060                 | 76               |
| 1,500                               | 350                     | 23                | 1,150                 | 77               |
| 1,600                               | 360                     | 23                | 1,240                 | 78               |
| 1,700                               | 370                     | 22                | 1,330                 | 78               |
| 1,800                               | 380                     | 21                | 1,420                 | 79               |
| 1,900                               | 390                     | 21                | 1,510                 | 79               |
| 2,000                               | 400                     | 20                | 1,600                 | 80               |
| 2,100                               | 410                     | 20                | 1,690                 | 81               |
| 2,200                               | 420                     | 19                | 1,780                 | 81               |
| 2,300                               | 430                     | 19                | 1,870                 | 82               |
| 2,400                               | 440                     | 18                | 1,960                 | 82               |
| 2,500                               | 450                     | 18                | 2,050                 | 82               |
| 2,600                               | 460                     | 18                | 2,140                 | 82               |
| 2,700                               | 470                     | 17                | 2,230                 | 83               |

a/ The allocation schedule is based on the following formula: first 150,000 coho to recreational base, then share additional fish 2:1, troll to recreational (.667 to troll, .333 to recreational), up to harvestable stock size of 350,000; then from 350,000 to 800,000 allowable harvest, the recreational allocation is =  $.14 \times (\text{allowable harvest} - 350) + 217$ ; then above 800,000 allowable harvest the recreational allocation is =  $.10 \times (\text{allowable harvest} - 800) + 280$ ; but at low stock sizes enough coho will be reallocated to the troll fishery as a shaker mortality set-aside to permit chinook fishing if the calculated troll allocation is insufficient. This formula will be used to interpolate between allowable harvest levels shown on the table.

b/ Recreational allocation will be reduced and troll allocation increased by the amount of shaker mortality set-aside necessary to permit the directed commercial chinook fishery if the calculated troll allocation is insufficient for this purpose. Shaker set-aside needed to permit troll fishery to access chinook is determined each season.



1. controlling ocean harvest impacts on depressed, viable natural stocks within acceptable maximum allowable levels, as determined by the Council's guidelines
2. stock abundance
3. allocation considerations of concern to the Council
4. stock specific impacts within a species
5. relative abundance of chinook and coho in the fishery
6. escapement goals
7. maximizing harvest potential

Troll coho quotas may be developed from the Oregon-California border to the management boundary separating Sacramento and Klamath River chinook stocks, or for other subareas south of Cape Falcon consistent with the above criteria. California recreational catches of coho would be included in the recreational quota south of Cape Falcon, but the area south of Oregon-California border would not close when the quota is met. Beyond this, no specific allocation between troll and recreational fisheries is proposed for California.

### Impacts

#### Biological Impacts

The total allowable harvest remains the same under both options and no new impacts on the resource or the environment would be expected under Option 2.

#### Socio-Economic Impacts

Estimating the change in NEV which will result from adopting a revised allocation schedule is difficult due to (1) the uncertainty of the extent to which the recreational fishery will utilize the increased allocation, (2) lack of knowledge on the future levels of allowable harvests, and (3) the unpredictability of recreational catch rates. Assuming that each additional fish allocated to the recreational fishery functions to add an additional user day toward an extended season (rather than just an increase in success rates) and using the marginal NEVs provided in the RIR/IRFA; a potential range of change in NEV has been calculated. Depending on the increase in the recreational allocation and the extent to which it is utilized, the estimated change in NEV created by modifying the allocation schedule is an increase of from \$295,000 to \$3,080,000 (Table 8). The change in personal income follows a similar trend.



Table 8. Potential changes in the area south of Cape Falcon NEV under Option 2 (Option 2-Option 1).

| Potential Increase<br>In Recreational<br>Allocation <sup>a/</sup><br>(thousands of fish) | Potential Changes in NEV<br>(thousands of dollars) |            |                   | Potential Changes in NEV<br>With 50 Percent Roll Back <sup>c/</sup><br>(thousands of dollars) |            |        |
|--|--|------------|-------------------|---|------------|--------|
|  | Recreational                                       | Commercial | Net <sup>b/</sup> | Recreational  | Commercial | Net    |
| 20   | + 862  | - 246      | + 616             | + 431   | -136       | + 295  |
| 40   | +1,725   | - 493      | +1,232            | + 862   | -271       | + 591  |
| 60   | +2,587   | - 739      | +1,848            | +1,294  | -407       | + 887  |
| 80   | +3,450   | - 986      | +2,464            | +1,725  | -542       | +1,183 |
| 100  | +4,312   | -1,232     | +3,080            | +2,156  | -678       | +1,478 |

- a/ Represents the maximum additional allocation of fish which could be used by the recreational fishery over a range of allowable harvest levels.
- b/ Calculated as the estimated maximum potential gain to the recreational fishery (full utilization of the increased allocation) minus the estimated maximum potential loss of commercial NEVs.
- c/ Assumes the recreational fishery utilizes only 50 percent of the increased allocation and that 90 percent of the "excess" fish are utilized in the commercial fishery south of Cape Falcon.





### Interaction With Other Amendment Issues

This issue affects the analysis of the NEV in Issue 1 and has been accounted for in that issue. Choice of options in Issue 1 does not affect the comparison of options for Issue 3. No interaction exists with Issue 2 (Inseason Management) as both options in that issue allow for quota modification.

### Recommendation

**The Council recommends Option 2.** Increasing the recreational allocation to increase the probability of a Memorial Day to Labor Day season while ensuring the directed commercial chinook fishery at times of low coho abundance should provide more economic benefits to the coastal communities.

### References

#### FMP Reference

Section 3.7.1.1. Final Framework Amendment for Managing the Ocean Salmon Fisheries Off the Coasts of Washington, Oregon, and California Commencing in 1985:3-34 through 3-44.

#### Regulations

50 CFR Part 661, Appendix Section II.B.







APPENDIX A

Environmental Assessment of the Seventh Amendment to the  
Fishery Management Plan for Commercial and Recreational Salmon Fisheries  
Off the Coasts of Washington, Oregon, and California  
Commencing in 1978





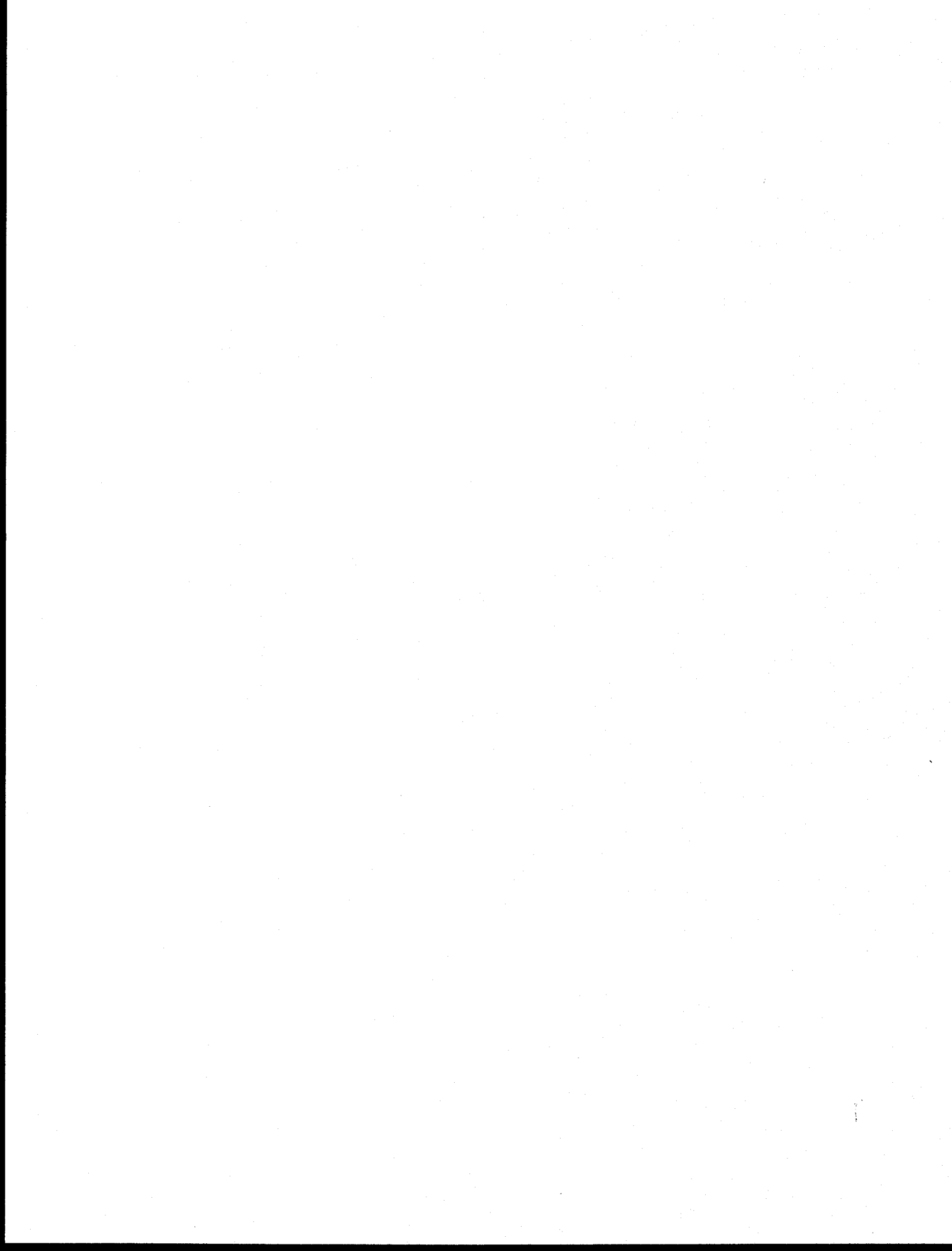




APPENDIX A TABLES  
Environmental Assessment of the Seventh Amendment to the Fishery  
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APPENDIX A  
ENVIRONMENTAL ASSESSMENT OF THE SEVENTH AMENDMENT TO THE  
FISHERY MANAGEMENT PLAN FOR COMMERCIAL AND RECREATIONAL SALMON FISHERIES  
OFF THE COASTS OF WASHINGTON, OREGON, AND CALIFORNIA  
COMMENCING IN 1978

Introduction

Shortly after the enactment of the Magnuson Act, the Council prepared the first ocean salmon FMP/EIS, which was approved and implemented in 1977. A new FMP/EIS was developed for the 1978 season.

Since then, the 1978 FMP has been amended six times. From 1979 to 1983, the FMP was amended annually to establish management measures for each year's fishery and a supplemental EIS was prepared for each amendment. In 1984, a framework amendment was implemented and was accompanied by another supplemental EIS. The framework amendment established a mechanism to implement preseason and inseason regulatory adjustments without a plan amendment.

Development of a seventh amendment to the 1978 FMP began in 1985. The major purposes of the seventh amendment are to (1) provide a formula for annual alteration of the escapement goal for OCN coho salmon based on stock abundance; (2) increase the flexibility of inseason management provisions to be more responsive to changing biological, social, and economic conditions during the season; and (3) modify the allocation schedule for coho salmon south of Cape Falcon, Oregon to provide the optimum yield from recreational and commercial fisheries at varying stock abundance levels.

The EA of this amendment has been prepared according to 40 CFR 1501.3 and 1508.9 and NOAA Directive 02-10 in order to determine whether an EIS is required by Section 102(2)(C) of the NEPA. An EIS normally is required for any major action that will have a significant impact on the quality of the human environment. An EIS is not required if the EA concludes that there is no significant impact.

A brief analysis of the environmental impacts of the three issues in the amendment follows. In addition, Table A-1 identifies the pages of the amendment and the RIR/IRFA which analyze the potential environmental impacts of alternative options for each issue. Thus, this appendix either contains or references the information required for a "structurally complete" EA.

Needs Identified in the Seventh Amendment

Issue 1 (OCN Coho Escapement Goal)

In 1982, the ODFW adopted a rebuilding schedule to achieve an escapement of 200,000 naturally-spawning Oregon coastal coho by 1987 and every year thereafter. The rebuilding schedule and long-term escapement goal were adopted by the Council and promulgated in federal regulations in 1984.

The rebuilding program has been successful in increasing OCN coho escapement. The 1984 and 1985 cycles OCN coho have been rebuilt to approach the optimum escapement of 200,000 naturally-spawning adults.



Table A-1. Issues in the "Seventh Amendment to the FMP for Commercial and Recreational Fisheries Off the Coasts of Washington, Oregon, and California Commencing in 1978" (pages reference requirements of an environmental assessment under NEPA).

| Issue | Title   | Need for Action | Alternative (Options) | Impacts    |                | Interaction | Preferred Option |
|-------|---|-----------------|-----------------------|------------|----------------|-------------|------------------|
|       |   |                 |                       | Biological | Socio-Economic |             |                  |
| 1     | OCN Coho Escapement Goal  | 4               | 4                     | 6          | 8, B-11        | 8, B-13     | 2                |
| 2     | Inseason Management Actions and Procedures                                | 11              | 14                    | 19         | 19, B-18       | 19          | 2                |
| 3     | Allocation of Allowable Ocean Harvest of Coho Salmon South of Cape Falcon | 21              | 22                    | 27         | 27, B-27       | 29          | 2                |





The 1983 cycle of OCN coho was severely impacted by adverse environmental conditions (the "El Nino"), and escapement only totaled 57,000 OCN coho or 40 percent of the 140,000 goal that year. The 1983 cycle is rebounding, however; and 1986 escapement is expected to be within 80 to 90 percent of the 170,000 goal.

The El Nino phenomenon raised the need for flexibility in the rebuilding schedule. State managers concluded that a spawning escapement floor of 135,000 adult OCN coho would not jeopardize the productive capability of the natural coho stocks, and recommended to the Council that a FMP amendment be considered to respond to socio-economic concerns at low OCN coho abundance levels.

Issue 1 of this amendment compares the framework rebuilding schedule and fixed long-term goal with a formula for annual alteration of the escapement goal based on stock abundance.

#### Issue 2 (Inseason Management Actions and Procedures)

The 1984 framework amendment provided the authority to make certain inseason modifications to the ocean salmon regulations when necessary to facilitate meeting the objectives of the FMP. Numerous incidences arose during the first season under these inseason management provisions when the Council, its advisors, or the states recommended an inseason change which could not be implemented. Several of the framework provisions are too narrow in their scope and intent, and others are unclear as to what modifications can be made under them. Partially as a result of the inflexibility of framework inseason management provisions, many ocean coho quotas were exceeded in 1985.

Issue 2 compares slightly-modified framework inseason management provisions with alternative, more flexible inseason management provisions to be more responsive to changing biological, social, and economic conditions during the season.

#### Issue 3 (Allocation of Allowable Ocean Harvest of Coho Salmon South of Cape Falcon)

The 1984 framework amendment also provided a schedule for allocation of the allowable ocean harvest of coho salmon south of Cape Falcon based, in part, on historic catch patterns from 1966 to 1978.

The framework allocation schedule has become increasingly controversial due primarily to the relatively low abundance of coho salmon in the area in recent years, and the disastrous affect this decreased abundance has had on the economy of coastal communities. As a result, the Commission authorized a study of the economic aspects of recreational-commercial allocation in 1985. A progress report on the economic study concluded "that a reasonable reallocation of the allowable coho catch from commercial to recreational could significantly increase coastal community income . . . ."

Issue 3 compares the framework allocation schedule to a new schedule which provides a more stable recreational season and increased economic benefits from the ocean salmon fisheries.



## Environmental Impacts of Optional Responses to Needs

### Issue 1 (OCN Coho Escapement Goal)

As discussed above, the framework rebuilding schedule was designed to rebuild naturally-spawning Oregon coastal coho stocks to an optimal escapement of 200,000 fish per year beginning in 1987. The alternative to status quo, recommended by the Council in the seventh amendment, would allow deviation from this goal during years of low abundance. A floor escapement of 135,000 OCN coho is established to protect the long-term viability of stocks.

OCN stocks have undergone large fluctuations in abundance historically as identified in Table A-2. There have been nine instances since 1967 when the OCN coho spawning population dropped below 135,000 fish. Subsequent production three years later has rebounded well. For instance, in 1969 escapement was about 133,000 coho, but three years later the OCN production was nearly 700,000 fish. State and Council fishery biologists agree that a minimum escapement level of 135,000 OCN coho will not jeopardize the productive capability of the natural coho stocks.

The large fluctuations in historic abundance are more the result of poor upwelling and low ocean survival than the level of escapement. For example, the largest run in twenty years, 1,336,300 OCN coho, resulted from a brood year escapement of 143,000 OCN coho salmon in 1973. Conversely, two years later only 390,700 OCN coho were produced from a larger escapement of 157,800 OCN coho.

The poorest escapement in twenty years occurred during the "El Nino" in 1983 with a spawning population of only 57,200 OCN coho. Nevertheless, ocean survival was better than during the two previous returns and 1986 abundance was estimated at 285,600 OCN coho.

It appears that ocean environmental conditions are improving. If ocean conditions continue to improve, it is likely that abundance will be greater than 400,000 OCN coho each year and thus this amendment will not modify the framework escapement goal.

Socio-economic impacts of the proposed action are expected to be positive since, during periods of low stock abundance, ocean harvests will increase over that allowed under the framework escapement goal. Under the example analysis in the RIR/IRFA, the additional income generated in such a year more than offsets the reduction of income three years later when the available harvest is reduced. Neither option imposes a significant cost, as defined by Executive Order 12291, on the commercial and recreational fishing industries when compared with the status quo. More complete analysis of socio-economic impacts is discussed in the amendment (see Table A-1) and in the RIR/IRFA (Appendix B).

The proposed action will not damage ocean and coastal habitats, will not have a substantial adverse impact on public health or safety, and will not adversely affect an endangered or threatened species or marine mammal populations. In addition, the proposed action has no affect on flood plains and wetlands, sites included in the National Trails and Nationwide Inventory of Rivers, and sites nominated or designated by the Advisory Council on Historic



Table A-2. OCN coho spawning escapement estimates (1967-1985) and subsequent progeny (in thousands of fish).

| Brood Year | OCN Coho<br>Spawning Population | OCN Production<br>(Three Years Later) |
|------------|---------------------------------|---------------------------------------|
| 1967       | 211.1                           | 703.3                                 |
| 1968       | 205.1                           | 528.8                                 |
| 1969       | 133.3                           | 696.5                                 |
| 1970       | 235.9                           | 748.3                                 |
| 1971       | 302.4                           | 721.4                                 |
| 1972       | 120.6                           | 685.4                                 |
| 1973       | 143.0                           | 1,336.3                               |
| 1974       | 130.4                           | 503.9                                 |
| 1975       | 157.8                           | 390.7                                 |
| 1976       | 161.7                           | 610.2                                 |
| 1977       | 62.9                            | 341.9                                 |
| 1978       | 74.5                            | 358.4                                 |
| 1979       | 172.2                           | 323.3                                 |
| 1980       | 107.5                           | 236.4                                 |
| 1981       | 72.7                            | 269.9                                 |
| 1982       | 128.6                           | 269.3                                 |
| 1983       | 57.2                            | 285.6                                 |
| 1984       | 200.1                           | --                                    |
| 1985       | 183.0                           | --                                    |

Source: Personal communication, James Martin, Harvest Management Division, ODFW, September 1986.



Preservation. The proposed action will not increase the cost or decrease the effectiveness of enforcement.

## Issue 2 (Inseason Management Actions and Procedures)

The framework inseason management provisions have proven to be too rigid and too narrow in scope and intent for prudent management of the ocean salmon resource. The alternatives to status quo in this amendment would increase the flexibility of inseason management provisions. Under the alternative recommended by the Council, any inseason regulatory adjustment would be allowed as long as specified factors were considered and specified criteria were met.

The proposed action will have a positive affect on ocean salmon stocks. In 1985, under the framework inseason management provisions, many ocean quotas were exceeded. In 1986, under an emergency rule similar to the action being proposed in this amendment, coastwide ocean landings did not exceed quotas. In fact, preliminary landing information indicates that coastwide coho landings may be within one-half of one percent of (under) quota.

This action is also expected to have a positive socio-economic affect by increasing the likelihood that the inseason adjustments to regulations will extend recreational seasons, increasing economic returns to coastal communities. The commercial fishery will benefit by increased assurance that as much as possible of its allowable ocean harvest will be taken. Both options would potentially increase NEV by allowing more flexibility to shape regulations to achieve the maximum benefit from any given level of harvest. This is especially beneficial at low allowable harvest levels when recreational seasons can be extended by such inseason adjustments as closing the fishery on certain days each week or reducing the bag limit. More complete analysis of socio-economic impacts is discussed in the amendment (see Table A-1) and in the RIR/IRFA (Appendix B).

In summary, this action will increase the likelihood that depressed stocks will be rebuilt and abundant stocks surplus to inside fishery and spawning needs will be harvested.

The proposed action has no affect on ocean and coastal habitats, endangered or threatened species or marine mammal populations, flood plains and wetlands, sites included in the National Trails and Nationwide Inventory of Rivers, and sites nominated or designated by the Advisory Council on Historic Preservation.

The proposed action does have a positive affect on public health and safety. If fishermen choose to not fish during periods of inclement weather, alternative seasons can be set to harvest quotas.

The proposed action also affects the effectiveness and cost of enforcement since it would allow the best opportunity for federal regulations to match those of the states during the season. The states have a high degree of inseason management flexibility which they use to respond to changing biological, economic, and social conditions of the fishery and they are unlikely to reduce this ability in the future.





### Issue 3 (Allocation of Allowable Ocean Harvest of Coho Salmon South of Cape Falcon)

Allocation of coho salmon to commercial and recreational fisheries south of Cape Falcon under the framework schedule has resulted in severely depressed coastal economies in areas dependent upon ocean fishing during years of low coho abundance. The alternative to status quo, recommended by the Council in this amendment, would increase the stability of the recreational season and thus increase economic yield to coastal communities. The increased NEV derives from the estimated difference between a fish caught in the recreational fishery and one caught in the commercial fishery. More complete analysis of socio-economic impacts is discussed in the amendment (see Table A-1) and in the RIR/IRFA (Appendix B).

The action will have no affect on the number of ocean salmon which are harvested each year and thus would not reasonably be expected to jeopardize the long-term productive capability of any stocks. The action has no affect on public health and safety, ocean and coastal habitats, endangered or threatened species or marine mammal populations, flood plains and wetlands, sites included in the National Trails and Nationwide Inventory of rivers, and sites nominated or designated by the Advisory Council on Historic Preservation. The proposed action will not increase the cost nor decrease the effectiveness of enforcement.

#### Agencies and Persons Consulted

Representatives of the following agencies were consulted in formulating the proposed action, considering alternatives, and preparing this environmental assessment.

California Coastal Commission  
California Department of Fish and Game  
Oregon Coastal Zone Management Association  
Oregon Department of Fish and Wildlife  
Oregon Land Conservation and Development Commission  
National Marine Fisheries Service  
Pacific Fishery Management Council  
San Francisco Bay Conservation and Development Commission  
Washington Department of Fisheries  
Washington Department of Ecology  
U.S. Coast Guard  
U.S. Fish and Wildlife Service

#### Finding of No Significant Environmental Impact

For the reasons discussed and referenced above, it is determined that neither approval nor disapproval of any option presented would significantly affect the quality of the human environment in a way that has not already been contemplated in the supplemental EIS for the FMP. Accordingly, preparation of a supplemental EIS on these issues is not required by Section 102(2)(C) of the NEPA or its implementing regulations.

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Assistant Administrator for Fisheries, NOAA

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Date



## APPENDIX B

### Regulatory Impact Review/Initial Regulatory Flexibility Analysis





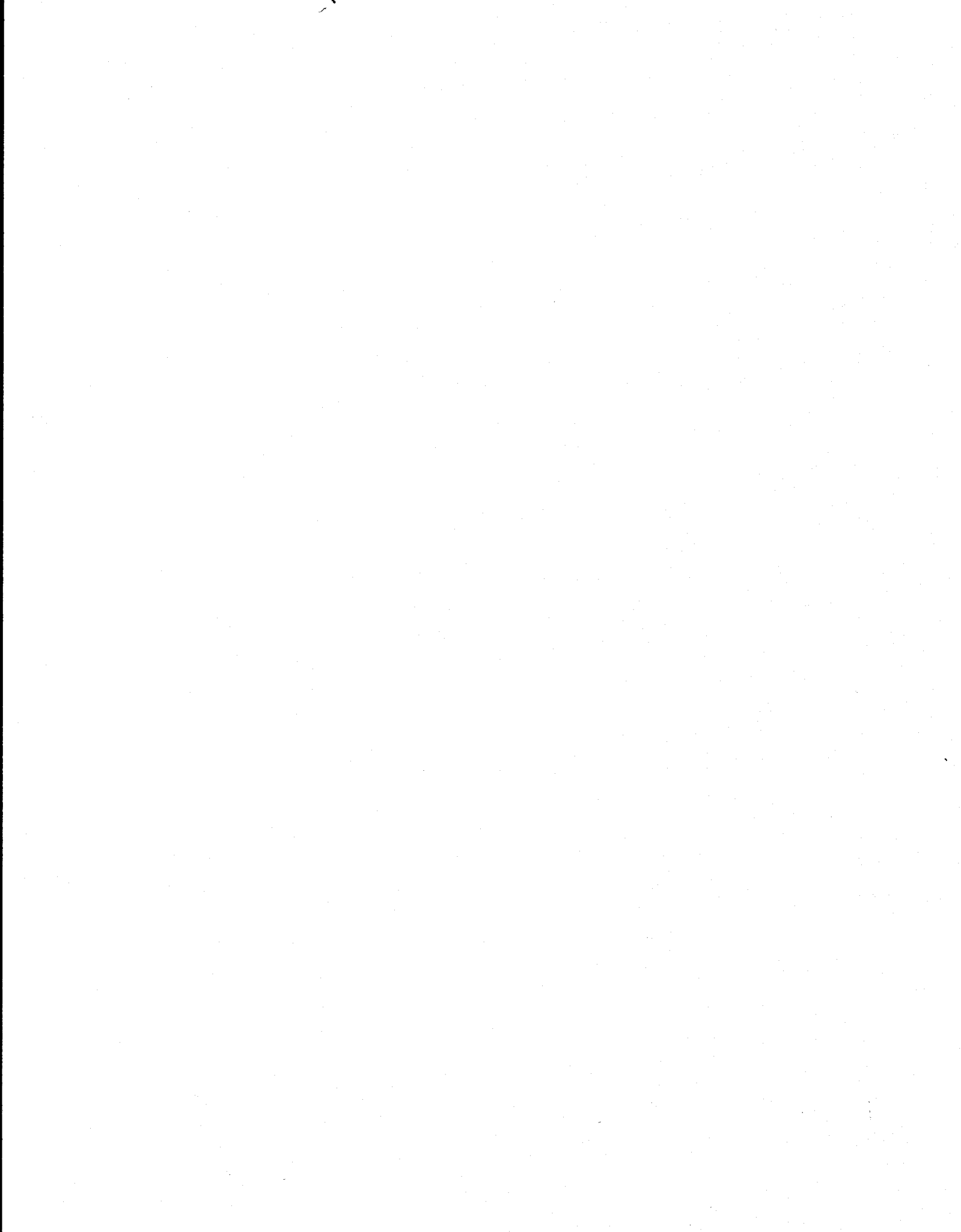


APPENDIX B TABLES  
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APPENDIX B  
REGULATORY IMPACT REVIEW/INITIAL REGULATORY FLEXIBILITY ANALYSIS

ISSUE 1 - OREGON COASTAL NATURAL COHO SPAWNING ESCAPEMENT GOAL

This issue examines the concept of adjusting escapement goals for OCN coho in response to expectations of stock abundance. Concerns have been expressed that short-term socio-economic considerations may not be adequately addressed under the current long-term fixed-level spawning escapement goal. The objective in proposing a FMP amendment is to examine whether escapement policies could be restructured to meet socio-economic considerations while distributing any short-term hardships created by meeting escapement goals between various ocean and inside fisheries.

Background

The salmon FMP, as amended by the framework amendment in 1984, provides for a specific rebuilding schedule to achieve a spawning escapement goal of 200,000 naturally spawning adult OCN coho by 1987 and every year thereafter. According to the stock recruitment relationship for coho from Oregon coastal rivers, this escapement would maximize sustained yield of this naturally spawning component of the OPI area (south of Leadbetter Point, Washington) and would contribute to optimizing overall harvest within the OPI area.

OCN coho spawning escapements were severely depressed in the 1970s. Attempting to meet the long-term escapement goal of 200,000 would have had immediate and severe socio-economic repercussions. A rebuilding schedule involving a gradual, rather than abrupt, increase in annual escapement goals was chosen to reduce the immediate and temporary negative impacts on ocean fisheries and coastal economies.

Even with the rebuilding schedule allowing for gradual achievement of the optimum goal, the unanticipated occurrence of an El Nino event in 1983-1984 contributed to depressed stock abundance over a period of years. For example, the 1983 OCN brood year class impacted by the El Nino was extremely weak resulting in low stock abundance expected for 1986 when the rebuilding schedule called for increased escapement. Meeting the scheduled escapement goal increase would result in considerable short-term socio-economic hardship at a time when other components of the OPI stock were at abundance levels that would have allowed for increased harvests. Concerns that situations such as this could occur in the future, causing severe impacts on fishery participants and coastal communities, prompted ODFW to submit a formal proposal to the Council to modify the framework goal in favor of a stock abundance-dependent spawning escapement goal for OCN coho salmon.

Description of the Fishery

OPI coho stocks are harvested by both ocean commercial and recreational fishermen and inriver non-Indian and Indian gillnet fishermen and inside recreational fishermen. The principal stocks which make up the OPI stock complex include Columbia River coho hatchery stocks, coastal coho hatchery stocks, and OCN coho stocks. The ocean fisheries land all of these stocks in a mixed stock harvest while Columbia River net fishermen and Buoy 10



recreational fishermen harvest primarily early and late components of the Columbia River hatchery stocks. Table B-1 presents OPI coho catches from 1976-1985 for the major fisheries. While the OPI area includes stocks south of Leadbetter Point, the boundaries which are used for management purposes are those areas north and south of Cape Falcon. These in turn are divided into subareas with Leadbetter Point providing a major boundary north of Cape Falcon. Approximately 37 and 30 percent of the allowable OPI harvest occurred north of Cape Falcon in 1984 and 1985, respectively.

The commercial troll fleet is mobile and vessels from all three coastal states harvest OPI coho. The structure of the Oregon commercial fleet is shown in Table B-2. The decline in the commercial fishery since 1980 reflects the effects of tighter regulations designed to increase the escapement of OCN (as opposed to hatchery-produced) coho and relatively poor resource conditions. The 1983 and 1984 coho stocks were subjected to the El Nino and thus were particularly few in numbers of fish. Many additional details are presented in ODFW, 1985 and Council, 1986a (see references). The decline in number of troll vessels is also seen. A good portion of the current Washington vessels (1,259 troll vessels) and California vessels (2,308 troll vessels) also harvest OPI coho.

Information on the number of charter and private recreational salmon fishing vessels is not as precise as the data on the commercial fleet. For the years between 1980 and 1985, the number of Oregon licensed charter vessels ranged from 194 to 255. Of the 226 vessels licensed in 1985, approximately 132 engaged in fishing (Council, 1986a). Approximately 30 percent of the 316 licensed Washington charter vessels in 1985 were based out of Ilwaco, the major Washington port south of Leadbetter Point. Northern California charter vessels also rely on OPI coho for their fishery. Reliable estimates of the number of private recreational vessels engaged in ocean sport salmon fishing are not available.

### Options

The Council proposes consideration of the following management options under Section 3.5.1.1., Columbia River and Oregon coastal, page 3-14 and 3-15 of the final framework amendment to the salmon FMP.

#### Option 1 - Status Quo

Under this option the rebuilding schedule described in the framework amendment would be completed by 1987. From 1987 on, the annual escapement goal for OCN coho would be 200,000 which is the present optimum natural spawning escapement goal. Total OPI harvest levels allowed would depend upon harvest rates required to attain this escapement goal.

#### Option 2 - Abundance Dependent

The proposed change in escapement policy would allow for an annually varying escapement goal, depending on total annual OCN coho stock abundance. For OCN stock sizes below 270,000; the spawning escapement goal would be 135,000 coho. Between stock sizes of 270,000 to 400,000 coho half of the abundance would go toward escapement and half would be available for harvest. For stock sizes above 400,000; the escapement goal will be



Table B-1. Recent year harvest of OPI coho stocks from Leadbetter Point south (thousands of fish).

| Year | Ocean Fisheries |       | Columbia River<br>Net Fisheries |        | Columbia<br>River   |
|------|-----------------|-------|---------------------------------|--------|---------------------|
|      | Troll           | Sport | Non-Indian                      | Indian | Sport <sup>a/</sup> |
| 1976 | 2,793.5         | 59.8  | 168.4                           | 4.0    | 0.3                 |
| 1977 | 632.8           | 10.3  | 39.0                            | 1.0    | 0.5                 |
| 1978 | 1,051.6         | 10.2  | 132.7                           | 3.7    | 1.0                 |
| 1979 | 1,005.8         | 41.7  | 127.6                           | 3.9    | 0.2                 |
| 1980 | 482.8           | 39.4  | 150.1                           | 0.3    | 0.1                 |
| 1981 | 783.3           | 33.6  | 59.8                            | 1.8    | 0.1                 |
| 1982 | 689.3           | 35.6  | 201.7                           | 4.3    | 19.0                |
| 1983 | 398.1           | 18.2  | 6.6                             | 0.2    | 2.9                 |
| 1984 | 88.1            | 37.9  | 189.1                           | 1.6    | 75.1                |
| 1985 | 131.7           | 36.3  | 190.0                           | 4.6    | 26.5                |

a/ Sport catches listed in this table are mainstem only and include catches in the Buoy 10 area which were 74,400 coho in 1984 and 25,400 in 1985.





Table B-2. Number of vessels landing troll-caught salmon in Oregon, 1976-1984.

| Year               | Number of Vessels                         |
|--------------------|---|
| 1976               | 2,770                                     |
| 1977               | 3,108                                     |
| 1978               | 3,158                                     |
| 1979               | 3,114                                     |
| 1980 <sup>a/</sup> | 3,875 (4,314) <sup>b/</sup>               |
| 1981               | 3,615 (3,926) <sup>b/</sup>               |
| 1982               | 3,269 (3,646) <sup>b/</sup>               |
| 1983               | 2,984 <sup>c/</sup> (3,437) <sup>c/</sup> |
| 1984               | 771 <sup>d/</sup> (3,197) <sup>c/</sup>   |

a/ The establishment of a restricted vessel permit system (with liberal initial qualification criteria) drew a number of historically active vessels back into the fishery in 1980.

b/ Numbers of vessels holding permits for troll salmon fishing under the state license moratorium, but not necessarily landing salmon in Oregon are noted in parentheses.

c/ Preliminary.

d/ Vessels were not required to land one salmon in 1984 to be eligible to renew permits in 1985. The Oregon Commercial Fishing Vessel Permit Board waived this requirement because of the elimination of the coho fishery south of Cape Falcon.



200,000 coho. Therefore for any year with OCN coho stock abundances over 400,000 the escapement goal would be the same under either option. As with Option 1, the total OPI allowable harvest would be largely driven by the OCN coho escapement goal.

### Analysis

The progeny of coho which are allowed to escape to their spawning grounds contribute to ocean and inside fisheries three years later. Allowing for a reduced escapement goal and an increased harvest rate to minimize short-term economic and social hardships will result in less OCN coho available for harvest three years hence than would have been possible if the escapement goal had not been lowered. Because the ocean fisheries are mixed stock fisheries, the level of harvest rate determined to meet the OCN escapement will also determine what proportion of other coastal and Columbia River hatchery stocks will be available for harvest in the ocean. Examining the short- and long-term harvest tradeoffs will be the basis of the following analysis. In addition, some of these stocks harvested in the OPI area, such as the Washington coastal natural stocks, may constrain the harvest levels in other fisheries such as the north of Cape Falcon ocean fisheries. Therefore, the short- and long-term impacts on fisheries north of Cape Falcon and inside the Columbia River will also be described.

At stock sizes above 400,000 OCN coho, the two options proposed are identical in the escapement required for all years after 1986. Therefore, the only years which would trigger a lower escapement would be those where low survival resulted in decreased abundance. Given recent year escapements and current expectations of ocean conditions, the probabilities of low abundance situations which would trigger a reduced goal appear to be fairly low. However, if a situation similar to that observed in 1983 occurred then the projected abundance three years later could result in different harvest levels allowed under the two options. For purposes of this analysis, a scenario of low OCN abundance compared to other OPI stocks similar to, but not identical to, that predicted for 1986 is utilized. The level of stock abundance was chosen to approximate a realistic "worst case" scenario where the differential between options would be the greatest. In this generic analysis, the initial year where a reduced escapement is allowed under Option 2 will be called Year 1, and the projected production three years later resulting from the escapement levels allowed in Year 1 will be referred to as Year 4 allowable harvests. The impacts of implementing a policy change for the escapement goal of OCN will be assessed by viewing changes in total allowable catch within the OPI area and in other affected fisheries over this two cycle period.

### Biological Methodology and Assumptions

The biological analysis is based on the assumption that estimates of allowable harvest are considered on an annual basis and fishery patterns by time and area are not altered from an average or base period situation. The analysis is driven by the allowable harvest in the OPI area which is determined by the abundance of the OCN stock and the harvest rate which would provide for the appropriate escapement of OCN coho. An OCN abundance in Year 1 of 231,000 is assumed. In addition to OPI ocean fishery impacts, the effect on Columbia River fisheries and on ocean fisheries north of Leadbetter Point resulting from harvest rate changes of alternative escapement policies has been estimated to provide a more comprehensive, overall examination of the impacts.



Harvest impacts were estimated using stock contribution information developed from representative coded-wire tag recoveries for the various stock components which are used as input to the Washington Department of Fisheries and National Bureau of Standards catch regulation analysis model. These data are the same as utilized for impact assessment of regulatory options in the Council's preseason process, though the analysis is considerably simplified. Input to the model is then limited to estimates of annual abundance relative to the base period of 1979-1981.

The impact of the policy change on ocean fisheries north of Leadbetter Point are estimated by assuming that differences in the impact of non-OPI stocks (e.g., Washington coastal) within the OPI area must be exactly compensated. The difference in relative contribution north and south of Leadbetter Point of these stocks is also considered. It was assumed that OPI area harvest rate changes would be partially compensated by changes in allowable inriver harvest of Columbia River coho stocks.

Additional basic assumptions important to this analysis are:

1. the ability exists to forecast abundance of OCN coho. Without this capability there is no difference in escapement goal policy alternatives.
2. different relative contributions to the catch are directly proportional to overall annual abundance of all stocks.
3. difference in catch or impact of a critical stock is completely transferable to inside fisheries (Columbia River) or escapement. Natural mortality or reinterception by other fisheries is not considered.
4. changes in Columbia River stock inriver abundance are translated to fishery impacts using a factor of .80, that is, the relative efficiency of Columbia River fisheries is less than 100 percent. This efficiency factor considers the difference in availability of late and early stock components and the historic efficiency of Columbia River fisheries. It is recognized that historically the majority of inside harvest was by non-treaty gillnet. While potential exists for considerable recreational opportunity above the level which has taken place (e.g., Buoy 10), it is assumed that changes in the inriver harvest resulting from the policy change will accrue to the gillnet fishery.

Given the above assumptions, Tables B-3 and B-4 present the predicted harvest impacts in terms of the number of fish by area of catch calculated for 1986 and 1989. The impacts are expressed as the difference between harvest levels under the proposed change compared to the existing escapement policy (Option 2-Option 1). Table B-4 allocates the difference in catch to commercial and recreational ocean fisheries based on the allocation schedules outlined in the framework FMP amendment.



Table B-3. Expected changes in catch resulting from a change in escapement policy (thousands of coho). Based on an OCN coho stock abundance in Year 1 of 231,000 coho.

| Catch Area                              | Year 1      |          |            | Year 4      |          |            |
|---|-------------|----------|------------|-------------|----------|------------|
|   | Total Catch |          | Difference | Total Catch |          | Difference |
|   | Option 1    | Option 2 |            | Option 1    | Option 2 |            |
| Total OPI                               | 263.9       | 477.0    | 213.1      | 815.7       | 712.7    | -103.0     |
| South of Cape Falcon                    | 197.9       | 357.8    | 159.9      | 611.8       | 534.5    | - 77.2     |
| North of Cape Falcon                    | 66.0        | 119.3    | 53.3       | 203.9       | 178.2    | - 25.8     |
| North of Leadbetter Point <sup>a/</sup> | 425.3       | 352.5    | - 72.8     | 343.8       | 425.3    | 81.5       |
| Columbia River (Inriver) <sup>b/</sup>  | 421.4       | 348.7    | - 72.7     | 253.6       | 281.5    | 27.9       |

a/ Approximates average 1977-1981 total catch of all stocks, within each area, for all years combined.

b/ Assumes 80 percent of inriver run size available for harvest.





Table B-4. Option 2-Option 1: Difference in catch between options by fishery, year, and catch area (number of coho).<sup>a/</sup>

| Catch Area                                   | Year 1     |              | Year 4     |              |
|--|------------|--------------|------------|--------------|
|  | Commercial | Recreational | Commercial | Recreational |
| North of Cape Falcon (Total)                 | - 9,650    | - 9,650      | 27,850     | 27,850       |
| North of Leadbetter Point                    | - 36,400   | -36,400      | 40,750     | 40,750       |
| North of Cape Falcon OPI                     | 26,750     | 26,750       | -12,900    | -12,900      |
| South of Cape Falcon                         | 159,800    | 0            | -76,800    | - 500        |
| Columbia River Inriver Harvest <sup>b/</sup> | - 72,750   | 0            | 27,920     | 0            |

a/ Assumes average abundance for north of Leadbetter Point stocks. Allocation between commercial and recreational fisheries based on framework allocation schedules. If Option 2 of Issue 3 is implemented, revising the allocation schedule south of Cape Falcon, the recreational catch would increase.

b/ Assumes that 80 percent of inriver abundance available for harvest. All additional coho available assumed to be harvested by gillnet fishery.



## Economic Methodology and Assumptions

Two basic concepts, **NEV** and **local personal income impact**, are used to estimate the effects of restructuring the present escapement policy. NEV refers to the "difference between the gross value of an economic activity and the costs (properly defined and measured) of carrying out that activity" (Rettig, 1984). The local personal income impact measures the change in income people in a given region will receive in the form of wages, salaries, and proprietary income and profits.

### Estimate of NEV

#### Recreational

Because recreational fishing areas are mostly located in public areas, prices for the use of the fishing area play an insignificant role in the valuation process. A frequently used approach is to estimate the value that a recreationalist places on his recreation experience through surveys of travel and other related expenditures. These travel costs and expenditure surveys are used as basic data in economic models to estimate the NEV of publicly provided fishing experience.

Brown, Sorhus, and Gibbs (1980) estimated the average NEV per trip for ocean salmon fishing to be \$51.82. The average number of days per trip in their survey was about two days. Dividing \$51.82 by two to convert to a per day NEV and then adjusting to 1985 dollars using the ratio of the gross national product price deflators for 1985 and 1977 (1.66) provides an average NEV per day of \$43.12.

This represents an **average** value per day. Conversion of this number to a **marginal** value associated with any significant decrease or increase of fish requires additional assumptions about the number of angler days of use supported by each additional fish. Recreational rates are not completely predictable. However, since 1979 the annual catch rates in the OPI area has varied between 0.84 and 1.19 fish per day. The simple average of these annual catch rates is 1.01 fish per day. For this analysis, we have assumed each additional fish would provide one additional angler day.

#### Commercial

To compute the net economic benefits from commercial fishing the costs of harvest (fuel, repairs, labor, etc.) should be subtracted from the gross revenues (ex-vessel price). At low levels of total salmon harvest and with small incremental changes in salmon production, it is often argued that any increased harvest could be taken with almost the same amount of labor, fuel, ice, etc. as before. Since the current fisheries (both the harvesting sector and processing sector) are greatly overcapitalized, in use of fixed and operating capital as well as labor, this is a plausible assumption. This assumption implies that almost no additional costs are involved and gross benefits are close to net benefits.



The assumption of full employment is implicit in most benefit and cost analysis. But unemployment and excess fishing capacity, both transitory and chronic, seem to prevail in many Pacific coastal communities dependent on commercial fishing. Changes in markets or fishing opportunities may make it necessary for people and capital to change occupations and/or locations. Various factors make it difficult for this to happen quickly enough to prevent a period of unemployment and idle capacity. The Water Resources Council (1979) suggests that when "idle boats" are available, the only incremental costs of increased harvest will be the operating costs.

Rettig and McCarl (1984) make recommendations on the calculation of commercial fisheries NEVs. Using the most liberal extremes of their recommendations of 90 percent of ex-vessel and 90 percent of processor margins, the NEV per fish can be calculated. For the purposes of this analysis, this "90 percent rule" has been employed.

However, it should be noted that as the total salmon harvest increases it would not be appropriate to use the 90 percent level. A more appropriate level might be the 50 percent level (the lower level recommended by Rettig and McCarl). In a situation where new resources (capital and labor) were needed to harvest and process a greater amount of salmon, the actual additional costs of harvesting and processing would have to be deducted from the ex-vessel price and the processors' margin in order to arrive at the NEV of additional salmon harvest.

#### Impact on Community Income

The amount that a commercial fisherman spends to prepare a consumer-ready product for market, or a recreationalist spends to take part in ocean fishing, has an important impact on the local and regional economy. In addition, purchases made by the harvester, processor, or tourist-related businesses will cause suppliers to purchase additional inputs in the form of labor, more inventory, and other items. As workers and entrepreneurs receive wages, salaries, and profits from these activities, they spend money in the local area for a variety of goods and services. The total effect on the local economy depends upon the amount of the original dollar expenditures and the amount which is spent for subsequent purchases within the local economy. This effect is closely tied to the total amount of expenditures, the types of expenditures, and the structure of the local economy. Economic I/O models are often used to estimate the impact of resource changes on the local economy. A further explanation of the procedure used is outlined in the Council's "1985 Ocean Salmon Fisheries Review."

#### Discount Rate

Money to be gained or lost in the future is not the same in value as an equal amount in the present, since funds available today can be loaned out with interest. A discount rate is the interest rate used in calculating the present value of future years' costs and benefits.

The appropriate discount rate used is determined by the objective of the evaluation. The Department of Agriculture (Forest Service) specifies that for evaluations of long-term land resource management investments a four percent real discount rate shall be used. The Water Resources Council rate for water



development projects is presently 8.58 percent. The Office of Management and Budget suggests the use of a ten percent discount rate, unless otherwise exempted, which represents an estimate for the average rate of return on private investment, before taxes and after inflation. To show a range, the analysis is completed at the four and ten percent discount rate. While the magnitude of the net impacts changes with the discount rate, the direction of the impact does not change over this range of discount rates.

#### Additional Assumptions

In performing both the NEV and income impact analysis, 1985 average weights and prices were assumed. The distribution of predicted changes in harvest levels between commercial and recreational fisheries is based on the allocation schedules present in the salmon FMP framework amendment. The analyses examine the short- (Year 1) and long-term (Year 4) impacts of a changed escapement level in 1986 resulting from the proposed escapement policy change (Option 2).

#### Summary Results

##### Changes in NEV

Table B-5 presents information on changes in NEV by area of fishery, year, and gear type resulting from a change in escapement policy. For the two cycle period, the final NEV over all fisheries (sport and commercial) and areas is calculated to be a positive increase between \$1,112,000 and \$1,234,000 depending on the discount rate used. However, the distribution of increases and decreases in net economic benefits varies considerably, temporally, and by fishery. These difference are summarized below.

##### North of Leadbetter Point

For both the ocean troll and recreational fisheries occurring in this area, a net loss in net economic benefits is predicted under the proposed escapement policy change. The loss in economic benefits occurring in Year 1 (\$355,000 and \$1,570,000 for the commercial and recreational fisheries, respectively) is not entirely compensated by the additional economic benefits occurring in Year 4, although at a four percent discount rate the net change is nearly zero.

##### North of Cape Falcon OPI

The increases in Year 1 ocean commercial and recreational fisheries NEV are offset somewhat by decreases in Year 4 but the overall impact is a positive increase. The percentage change in comparison to total allowable harvest is greater in Year 1 than in Year 4.

##### South of Cape Falcon

The greatest net increase in NEV occurs for the ocean troll fishery in this area. There is a slight loss for the recreational fishery in 1989. However, as in the area north of Cape Falcon, the total allowable harvest is larger in Year 4 regardless of escapement policy than in Year 1. Therefore the proportionate change is less in 1989.





Table B-5. Estimated changes in NEV over the two period cycle resulting from change in escapement policy (Option 2-Option 1) (thousands of dollars). Discounted at 4 and 10 percent.

| Catch Area                | Year 1     |              | Year 4     |      |              |       | Net         |              |
|---------------------------|------------|--------------|------------|------|--------------|-------|-------------|--------------|
|                           | Commercial | Recreational | Commercial |      | Recreational |       | Commercial  | Recreational |
|                           |            |              | 4%         | 10%  | 4%           | 10%   | 4%          | 10%          |
| North of Leadbetter Point | - 355      | -1,570       | 354        | 299  | 1,562        | 1,320 | - 2 - 57    | - 7 -249     |
| North of Cape Falcon OPI  | 284        | 1,153        | -122       | -103 | - 495        | - 418 | 162 181     | 659 736      |
| South of Cape Falcon      | 1,969      | -            | -841       | -711 | - 19         | - 16  | 1,128 1,258 | - 19 - 16    |
| Columbia River            | -1,041     | -            | 355        | 300  | -            | -     | - 686 - 741 | - -          |
| Total                     | 857        | - 416        | -254       | -215 | 1,048        | 886   | 602 642     | 632 470      |



### Columbia River

It was assumed that 80 percent of change in the inriver abundance would be available to the gillnet fishery. With a change in escapement policy there would be a net decrease in NEV for the gillnet fishery between \$686,000 and \$741,000 over the two period cycle, given the range of discount rates.

### Change in Local Personal Income Impacts

The estimated changes in local personal income resulting from a change in the escapement policy are summarized in Table B-6. The same trends, in terms of direction and distribution of impacts as discussed in the NEV section, are predicted. An overall positive increase in local personal income across all fisheries is estimated to be between \$1,584,000 and \$1,718,000.

Local personal income generated from the Columbia River fishery is predicted to be less than under the present escapement policy while local personal income generated from north of Leadbetter Point ocean fisheries will also decrease. On the positive side, OPI ocean troll fisheries north and south of Cape Falcon would generate an increase of local personal income. There would be a slight decrease south of Cape Falcon from the ocean recreational fishery but a larger increase north of Cape Falcon.

### Interaction With Other Amendments

If Option 2 of the allocation amendment (Issue 3) was adopted, the distribution of impacts by fishery south of Cape Falcon would change. Table B-7 presents the difference in catch for that area by fishery and year under each allocation option. With this redistribution, the south of Cape Falcon commercial net economic benefits and net levels of personal income are decreased by 38 percent but remain positive. The recreational impacts on NEV and local personal income change from slightly negative to increases of between \$1,467,000 to \$1,531,000 and \$1,462,000 and \$1,527,000; respectively (Table B-8). Under the proposed revised allocation schedule the final NEV overall fisheries (sport and commercial) and areas would be a larger positive increase than under the current allocation schedule. The same holds true for the estimates of changes in local personal income.

## ISSUE 2 - INSEASON MANAGEMENT ACTION AND PROCEDURES

This issue examines the need to modify and supplement inseason management provisions authorized by the ocean salmon FMP. The objective of inseason methods to adjust fishing patterns and harvest levels is to facilitate obtaining the maximum socio-economic benefits from the available harvest without jeopardizing the needed escapement.

As is illustrated by the seventh amendment package submitted, maximizing the return to fishermen and related businesses in the coastal communities is of importance to the Council. In order to realize this goal, fishery managers must be able to shape fisheries to best protect weak stocks while allowing for



Table B-6. Estimated changes in personal income over the two period cycle resulting from change in escapement policy (Option 2-Option 1) (thousands of dollars). Discounted at 4 and 10 percent.

| Catch Area                | Year 1     |        | Year 4     |        |              |       | Net        |        |              |      |
|---------------------------|------------|--------|------------|--------|--------------|-------|------------|--------|--------------|------|
|                           | Commercial |        | Commercial |        | Recreational |       | Commercial |        | Recreational |      |
|                           |            |        | 4%         | 10%    | 4%           | 10%   | 4%         | 10%    | 4%           | 10%  |
| North of Leadbetter Point | - 486      | -1,934 | 483        | 408    | 1,925        | 1,627 | - 2        | - 77   | - 9          | -307 |
| North of Cape Falcon OPI  | 472        | 1,278  | - 202      | -171   | - 548        | - 463 | 270        | 301    | 730          | 815  |
| South of Cape Falcon      | 2,938      | -      | -1,255     | -1,061 | - 19         | - 16  | 1,683      | 1,877  | - 19         | - 16 |
| Columbia River            | -1,418     | -      | 484        | 409    | -            | -     | - 934      | -1,009 | -            | -    |
| Total                     | 1,507      | - 656  | - 491      | -415   | -1,358       | 1,148 | 1,016      | 1,092  | 702          | 492  |



Table B-7. Difference in catch between options by fishery and year under different allocation options.

|  | Year 1     |              | Year 4     |              |
|--|------------|--------------|------------|--------------|
|  | Commercial | Recreational | Commercial | Recreational |
| SOUTH OF CAPE FALCON<br>Current Allocation Schedule<br>(Issue 3 - Option 1)          | 159,800    | -            | -76,800    | -10,900      |
| SOUTH OF CAPE FALCON<br>Proposed Revised Allocation Schedule<br>(Issue 3 - Option 2) | 116,200    | 43,700       | -66,400    | -10,900      |





Table B-8. Changes in estimated NEV and local personal income under each allocation option south of Cape Falcon (thousands of dollars).

|  | South of Cape Falcon<br>Current Allocation Schedule<br>(Issue 3 - Option 1) |              | South of Cape Falcon<br>Revised Allocation Schedule<br>(Issue 3 - Option 2) |              |
|--|---|--------------|---|--------------|
|  | Commercial  | Recreational | Commercial  | Recreational |
| ESTIMATED CHANGES IN NEV                   |   |              |   |              |
| Year 1                                     | 1,969   | 0            | 1,432   | 1,884        |
| Year 4 (4 and 10 percent discount rate)    | -841/-711   | -19/-16      | -727/-615   | -418/-353    |
| Net (4 and 10 percent discount rate)       | 1,128/1,258   | -19/-16      | 704/817   | 1,467/1,531  |
| ESTIMATED CHANGES IN LOCAL PERSONAL INCOME |   |              |   |              |
| Year 1                                     | 2,938   | 0            | 2,136   | 1,879        |
| Year 4 (4 and 10 percent discount rate)    | -1,255/-1,061   | -19/-17      | -1,085/-917   | -469/-417    |
| Net  | 1,683/1,877   | -19/-17      | 1,051/1,219   | 1,462/1,527  |



the greatest possible harvest of healthy stocks, to adjust for under or over-harvest between openings, to schedule salmon fishing openings in a manner which allows for alternative fishery opportunities to be developed, etc.

### Options

Two options have been proposed. These are described in detail in the main body of the amendment package (pages 14 through 19). Briefly, the two options are as follows.

#### Option 1 - "Nearly" Status Quo

Under this option, all current fixed provisions would remain in place. All optional management provisions presently in the framework FMP would remain and two additional optional provisions would be allowed. The first would provide for the modification of allowable recreational fishing days per week, while the second would allow modifications to gear restrictions during the season.

#### Option 2 - Status Quo Fixed Provisions and Additional or More Flexible Provisions

Under this option, all the fixed provisions would remain in place. New flexible provisions would allow, as long as any inseason adjustments or specified factors were considered and specified criteria were met. For example, the following actions would be allowed: (1) modification of quotas and/or fishing seasons; (2) species retention modifications (e.g., changing from an all-species to a single-species season, requiring certain number of one species to be caught before allowing another species to be retained); (3) adjustment of recreational bag limits or recreational days per week; (4) establishment or modification of gear restrictions as needed; and (5) modification of boundaries or establishment of closed areas.

### Analysis of Options

The options provided address the question of what management tools should be available inseason to adjust the fisheries to either protect the stocks or provide greater socio-economic benefits from the available harvest. These inseason management provisions are optional and may or may not be used in any given year. Therefore, it is difficult to quantify the impacts of any given measure without knowing specific information such as the region where it would be employed, the status of the stocks, and market conditions at the time.

As an illustration, the structure of the ocean recreational fishery varies considerably along the west coast. The percentage of angler trips taken on charter vessels is approximately 45 percent in California, 16 percent in Oregon, and 64 percent in Washington. Some ports are primarily charter ports while others cater to small private boats. Opportunities for recreational fishing for nonsalmonid species also vary as does the proximity of other ocean recreational activities such as beachcombing, etc. One of the additional optional provisions provided for under both Options 1 and 2 is modification of the number of recreational salmon fishing days during the calendar week. In some instances, use of this provision could be highly beneficial. For example, a coastal community with a developed charter boat fleet and nearby rockfish resources might benefit from promoting rockfish recreational fishing



on days when salmon fishing was closed, thus both extending the season and developing a new market. On the other hand, a coastal community whose fishing clientele are largely private boat owners who live in nearby urban centers might be less negatively impacted by a bag limit change than by a weekend-day salmon fishing closure.

Choice of a specific inseason modification should be accompanied by an analysis of the possible socio-economic impacts of that particular action. The framework process facilitates such analysis as a series of impact analyses are required pre and postseason as part of the management process. The type of inseason measures which may be employed for any given area and fishery are usually identified during the preseason annual regulatory process. At that time, the potential impacts of employing the selected provision would be examined in greater detail.

Tradeoffs between the two options will be described in qualitative terms below.

#### Option 1

Except in rare instances when fisheries are reduced, there should not be a reduction in net benefits accrued from the fisheries as a result of any of the inseason optional provisions, since all inseason actions would be consistent with adjudicated Indian fishing rights and allocation guidelines specified in the FMP. The same holds true in terms of coastal community impacts such as the amount of personal income generated from the ocean commercial and recreational fisheries. Positive net benefits and impacts could result because the inseason management provision under these options would permit adjustments that would allow fishermen to more fully utilize the harvestable surplus from stronger stocks and reduce the harvest of those weaker stocks needing protection. An example of the positive benefits resulting from the recreational days per week modification being employed through emergency regulation was the 1985 recreational fishery near Westport. The fishery between Queets River and Leadbetter Point commenced on June 30 and ended on September 8, with salmon fishing being allowed from Sunday through Thursday only. Assuming an equal number of angler trips per day without the day closures, the season would have ended approximately August 20. In reality, the number of angler trips occurring on Friday and Saturday is usually higher than during the week so the fishery would have probably closed even earlier. Early closures have been shown to cause economic instability problems for coastal communities. At the same time, the number of nonsalmon angler trips taken in 1985 was greater than any previous year. One factor for this increase may have been the weekend salmon closure, coupled with industry promotion efforts.

Inseason management actions require timely inseason data, and often telephone conference meetings and other costly, time consuming activities on the part of fishery managers. Notices of inseason changes must be disseminated promptly to fishery participants, and timing of implementation must be coordinated among enforcement agencies. The more regulatory changes made during a season, the higher the cost of management. Option 1 would incur similar or slightly higher costs as inseason management in the past. It may include a high probability that an additional FMP amendment would be required because of the narrowness of the provisions, which as we have seen through experience, may



not anticipate all future inseason problems (see page 12 in the main body of the amendment package for more details). Amending an FMP based on yearly variations in the need for inseason provision is also costly and time consuming.

### Option 2

The potential impacts of Option 2 are very similar to Option 1. However, the greater flexibility of Option 2 would allow inseason changes to be tailored to nearly any situation while Option 1 would be more limited. In this way, the potential to obtain greater net benefits from the fisheries may exist.

Option 2 might lead to more inseason management actions and therefore greater management costs than Option 1. However, due to Option 2's greater flexibility, there would be less likelihood that further FMP amendments would be necessary or that a full emergency meeting of the Council would be required to resolve an unanticipated situation.

## ISSUE 3 - ALLOCATION OF COHO SALMON SOUTH OF CAPE FALCON

### Background

This amendment is proposed to provide an alternative to the formula/schedule for allocation of the allowable harvest of coho salmon south of Cape Falcon. The existing allocation between commercial and recreational users is provided in the Council's framework amendment (pages vi through vii, and 3-40 through 3-44). A revised procedure is described in this document along with an analysis of the effects of the proposed revision compared with the status quo.

### Summary of the Proposed Amendment

Two alternatives are proposed for consideration. The first (Option 1) is the existing schedule for allocating the allowable ocean harvest of coho salmon in the area south of Cape Falcon. The second alternative contains a revised schedule which provides for an increased recreational allocation when necessary to provide a more stable recreational season. It also contains provisions for inseason review of recreational catch levels and mechanisms to reallocate coho to help ensure full utilization of the coho quota south of Cape Falcon. This would be accomplished by a "roll-over" provision to allocate any coho not needed to maintain a stable (Memorial Day to Labor Day) sport season back into the commercial fishery.

### Fisheries

Coho salmon are harvested in the commercial and recreational fisheries south of Cape Falcon off the coasts of Oregon and California. Historically, the commercial (troll) catch has been much greater than the recreational catch. The coho landed in Oregon have typically represented most of the catch in both fisheries, with California landing a smaller proportion of the south of Cape Falcon harvest. Table B-9 shows the catch of coho by state for 1976-1985.





Table B-9. Ocean coho catch south of Cape Falcon, Oregon, 1976-1985.

| Year               | Recreational Catch<br>(thousands of fish) |            |          | Commercial Troll Catch <sup>a/</sup><br>(thousands of fish) |            |          | Total   |
|--------------------|---|------------|----------|---|------------|----------|---------|
|                    | Oregon                                    | California | Subtotal | Oregon  | California | Subtotal |         |
| 1976               | 384.7                                     | 57.9       | 442.6    | 1,650.3   | 621.8      | 2,272.1  | 2,714.7 |
| 1977               | 139.9                                     | 14.2       | 154.1    | 373.0   | 45.2       | 418.2    | 572.3   |
| 1978               | 199.8                                     | 44.4       | 244.2    | 555.4   | 315.8      | 871.2    | 1,115.4 |
| 1979               | 142.9                                     | 16.5       | 159.4    | 654.0   | 184.4      | 838.4    | 997.8   |
| 1980               | 270.2                                     | 22.1       | 292.3    | 350.7   | 49.8       | 400.5    | 692.8   |
| 1981               | 145.6                                     | 9.7        | 155.3    | 651.5   | 83.9       | 735.4    | 890.7   |
| 1982               | 139.6                                     | 24.6       | 164.2    | 482.5   | 91.9       | 574.4    | 738.6   |
| 1983               | 109.6                                     | 26.9       | 136.5    | 313.5   | 59.9       | 373.4    | 509.9   |
| 1984               | 112.5                                     | 18.4       | 130.9    | 0.0   | 47.0       | 47.0     | 177.9   |
| 1985 <sup>b/</sup> | 151.5                                     | 15.2       | 166.7    | 43.8  | 11.1       | 54.9     | 221.6   |

a/ Includes landings, but not the estimated hooking mortality of coho not retained in the catch.

b/ Preliminary.



There has been dramatic variation over the years in the abundance of coho in the area south of Cape Falcon. Other factors, such as variations in timing of coho runs, physical fish density, and regulations--including length and timing of seasons in recent years--have made both the commercial and recreational fisheries subject to substantial changes in utilization patterns.

The commercial troll fishing seasons for coho in the area south of Cape Falcon have generally been getting shorter over the last ten years (Table B-10). Recreational seasons have also been getting shorter and have caused instability in the recreational support industry particularly since 1983 (Table B-11).

The structure of the Oregon commercial fleet is shown in Table B-2. The decline in the commercial fishery since 1980 reflects the effects of tighter regulations designed to increase the escapement of OCN (as opposed to hatchery-produced) coho and relatively poor resource conditions. The 1983 and 1984 coho stocks were subjected to the El Nino and thus were particularly few in numbers of fish. Many additional details are presented in the ODFW "Coho Salmon Plan Status Report" (1985) and the Council's "Review of 1985 Ocean Salmon Fisheries" (1986).

Information on the number of charter and private recreational salmon fishing vessels is not as precise as the data on the commercial fleet. For the years between 1980 and 1985, the number of Oregon licensed charter vessels ranged from 194 to 255. Of the 226 vessels licensed in 1985, approximately 132 engaged in fishing (Council, 1986a). Reliable estimates of the number of private recreational vessels engaged in ocean sport salmon fishing are not available. A summary of the number of ocean recreational salmon angler trips taken in Oregon south of Cape Falcon from 1979 to 1985 is provided in Table B-12.

#### Events Leading to the Proposed Amendment

There has been an unusual number of years of poor stock conditions which have resulted in increasingly stringent harvest regulations. In order to achieve escapement goals for OCN coho stocks, the total allowable harvest of coho south of Cape Falcon has been set at relatively low levels. Deliberate allocation was required because the number of fish was not adequate to satisfy the perceived needs of the various user groups and affected communities.

The Council addressed the question of ocean sport and commercial fisheries allocation by stating an objective of establishing ocean harvest rates that were consistent with the continuance of established recreational and commercial fisheries. See the "Final Framework Amendment for Managing the Ocean Salmon Fisheries Off the Coasts of Washington, Oregon, and California Commencing in 1985" (Council, 1984, page 3-34).

The expenditures of recreationalists contribute significantly to local coastal economies. For economic stability, it is important that the recreational season be as long as possible. The time distribution of catch and effort varies from year to year and area to area depending on stock abundance, distribution, and regulations. Since 1981, the length of ocean recreation seasons for those communities dependent on coho have been dramatically reduced



Table B-10. Oregon troll salmon fishing seasons, south of Cape Falcon, 1976-1985.<sup>a/</sup>

| Year | Length of Fishing Season (days) |                         |
|------|---------------------------------|-------------------------|
|      | Coho                            | Chinook                 |
| 1976 | 139 <sup>b/</sup>               | 184 <sup>b/c/</sup>     |
| 1977 | 139 <sup>b/</sup>               | 184 <sup>b/c/</sup>     |
| 1978 | 139                             | 184 <sup>c/</sup>       |
| 1979 | 65                              | 154 <sup>c/</sup>       |
| 1980 | 56                              | 155 <sup>c/d/</sup>     |
| 1981 | 55                              | 154 <sup>c/</sup>       |
| 1982 | 12 <sup>d/</sup>                | 169 <sup>c/d/</sup>     |
| 1983 | 25-60 <sup>e/</sup>             | 103-144 <sup>c/f/</sup> |
| 1984 | 0                               | 129 <sup>c/d/</sup>     |
| 1985 | 26 <sup>d/g/</sup>              | 158 <sup>d/g/</sup>     |

- a/ Strictly speaking, the area dividing line has been Cape Falcon only since 1978.
- b/ Area south of Tillamook Head.
- c/ Excludes late special south coast troll seasons off the Chetco and Elk rivers.
- d/ Cape Falcon to Cape Blanco.
- e/ Cape Falcon to Cape Kiwanda: 35 days  
Cape Kiwanda to Heceta Head: 60 days  
Heceta Head to Oregon border: 25 days
- f/ Cape Facon to Heceta Head: 103 days  
Heceta Head to Cape Blanco: 144 days  
Cape Blanco to Oregon border: 114 days
- g/ Cape Blanco to Oregon border 0 days, except for late special south coast troll chinook seasons.



Table B-11. Summary of ocean recreational coho seasons and regulations for Oregon waters south of Cape Falcon, 1976-1985.

| Year               | Opening Date | Closing Date | Number of Days | Bag Limit         |
|--------------------|--------------|--------------|----------------|-------------------|
| 1976 <sup>a/</sup> | May 1        | December 31  | 246            | 3                 |
| 1977 <sup>a/</sup> | April 30     | October 31   | 185            | 3                 |
| 1978               | April 29     | October 31   | 186            | 3                 |
| 1979               | May 12       | September 16 | 128            | 2                 |
| 1980               | May 10       | September 14 | 128            | 3/2 <sup>b/</sup> |
| 1981               | May 15       | September 20 | 129            | 2                 |
| 1982               | May 29       | August 1     | 65             | 2                 |
| 1983 <sup>c/</sup> | June 18      | September 18 | 93             | 2                 |
| 1984 <sup>d/</sup> | July 9       | August 7     | 30             | 2                 |
| 1985 <sup>e/</sup> | July 1       | September 2  | 64             | 2                 |

a/ Area dividing line was Tillamook Head.

b/ Bag limit three per day, reduced to two per day July 16.

c/ Season shown is for Cape Falcon to Cape Blanco. The season from Cape Blanco to the Oregon-California border was May 28 through September 8 (114 days) for coho.

d/ Season was also open from August 25 through September 3 (10 days) in Oregon state waters until federal preemption.

e/ Season shown is for Cape Falcon to Cape Blanco. In addition, the season was open May 25 through May 31 from Cape Blanco to the Oregon-California border, providing a 71 day season for that area.





Table B-12. Summary of ocean recreational salmon angler trips by boat type for Oregon south of Cape Falcon, 1979-1985.<sup>a/</sup>

| Year               | Boat Type |         | Total Angler Trips |
|--------------------|-----------|---------|--------------------|
|                    | Charter   | Private |                    |
| 1979               | 55,200    | 163,400 | 218,600            |
| 1980               | 52,800    | 198,800 | 251,600            |
| 1981               | 49,400    | 217,100 | 266,500            |
| 1982               | 31,500    | 167,300 | 198,800            |
| 1983               | 29,000    | 166,200 | 195,200            |
| 1984               | 21,600    | 124,300 | 145,900            |
| 1985 <sup>b/</sup> | 45,100    | 186,500 | 231,600            |

a/ Salmon data from surveyed ports only. (See Table IV-18, Council, 1986a.) South of Cape Falcon estimates calculated by subtracting Columbia River area effort from all Oregon effort.

b/ Preliminary.



(Table B-11). The effect is that the impacts of the total ocean recreational season are compressed into a shorter time period, which leads to local economic instability.

#### Objective of Proposed Amendment

The objective of the proposed amendment is to provide greater stability to the ocean recreational fishery while providing for the needs of commercial fishermen and processors to maintain optional harvest of chinook salmon, and to fully utilize those allowable coho harvest levels in excess to reasonable needs of the recreational fishery.

#### Options

Two options are proposed. Option 1 is to retain the existing allocation schedule, Option 2 is to replace the existing schedule with a new schedule and eight basic principles to guide application of the new schedule.

#### Development of Alternatives

In May 1985, the Commission directed its staff to compile economic and other information which would be useful in developing an explicit policy on the sport and commercial allocation of coho salmon in the ocean fisheries. Economic information in the recent staff report (ODFW, 1985) suggested that a modest increase in the recreational share would increase the NEV and levels of coastal community income, provided that additional angler days and increased tourism related to sport fishing resulted. Furthermore, testimony from the recreational user groups suggested that one of the most effective ways to increase angler use and tourism would be to provide a stable recreational season. In this way, recreational users and supporting businesses could plan activities effectively and with relative certainty. Based on the staff report and public testimony, the Commission decided that new coho allocation alternatives should be considered for the areas south of Cape Falcon. Accordingly, the staff was directed to prepare new allocation alternatives for the Commission's review. The Commission would review the alternatives for the purpose of recommending new allocation alternatives to the Council.

As a result of staff meetings with the commercial and recreational user groups, the Commission chose to postpone the recommendations of any staff-generated allocation schemes to the Council and instead directed the staff to assist user representatives to conduct discussions on allocation.

As a result of the discussions, a joint proposal of commercial and recreational users was agreed upon and presented to the Commission. On February 21, 1986, the Commission voted to recommend the joint proposal to the Council as the preferred reallocation alternative.

The two alternatives proposed are represented in Table B-13. The status quo allocation is contained in the columns headed "Present Council Allocation." The alternative is contained in the columns headed "Proposed Allocation Schedule By Fishery."



Table B-13. Proposed coho catch allocation schedules for the south of Cape Falcon area (thousands of fish).

| Total South<br>of Cape Falcon<br>Allowance<br>Harvest | Option 1                              |                   |   |         | Option 2 <sup>a/</sup> |                   |                  |                  |
|---|---------------------------------------|-------------------|---|---------|------------------------|-------------------|------------------|------------------|
|   | Present Council Allocation by Fishery |                   | Proposed Allocation Schedule by Fishery |         | Recreational           |                   | Troll            |                  |
|   | Allocation                            | Percent           | Allocation                              | Percent | Allocation             | Percent           | Allocation       | Percent          |
| 100   | 100.0 <sup>b/</sup>                   | 100 <sup>b/</sup> | b/                                      | b/      | 100 <sup>b/</sup>      | 100 <sup>b/</sup> | b/               | b/               |
| 200   | 170.0                                 | 85                | 30.0                                    | 15      | 167 <sup>b/</sup>      | 84 <sup>b/</sup>  | 33 <sup>b/</sup> | 17 <sup>b/</sup> |
| 300   | 170.0                                 | 57                | 130.0                                   | 43      | 200                    | 67                | 100              | 33               |
| 350   | 170.0                                 | 49                | 180.0                                   | 51      | 217                    | 62                | 133              | 38               |
| 400   | 170.0                                 | 43                | 230.0                                   | 58      | 224                    | 56                | 176              | 44               |
| 500   | 170.0                                 | 34                | 330.0                                   | 66      | 238                    | 48                | 270              | 52               |
| 600   | 170.0                                 | 28                | 430.0                                   | 72      | 252                    | 42                | 348              | 58               |
| 700   | 174.3                                 | 25                | 525.7                                   | 75      | 266                    | 38                | 434              | 62               |
| 800   | 188.0                                 | 24                | 612.0                                   | 77      | 280                    | 35                | 520              | 65               |
| 900   | 200.7                                 | 22                | 699.3                                   | 78      | 290                    | 32                | 610              | 68               |
| 1,000   | 212.0                                 | 21                | 788.0                                   | 79      | 300                    | 30                | 700              | 70               |
| 1,100   | 223.3                                 | 20                | 876.7                                   | 80      | 310                    | 28                | 790              | 72               |
| 1,200   | 234.0                                 | 20                | 966.0                                   | 81      | 320                    | 27                | 880              | 73               |
| 1,300   | 244.0                                 | 19                | 1,056.0                                 | 81      | 330                    | 25                | 970              | 75               |
| 1,400   | 254.8                                 | 18                | 1,145.2                                 | 82      | 340                    | 24                | 1,060            | 76               |
| 1,500   | 265.5                                 | 18                | 1,234.5                                 | 82      | 350                    | 23                | 1,150            | 77               |
| 1,600   | 275.2                                 | 17                | 1,324.8                                 | 83      | 360                    | 23                | 1,240            | 78               |
| 1,700   | 283.9                                 | 17                | 1,416.1                                 | 83      | 370                    | 22                | 1,330            | 78               |
| 1,800   | 293.4                                 | 16                | 1,506.6                                 | 84      | 380                    | 21                | 1,420            | 79               |
| 1,900   | 302.1                                 | 16                | 1,597.9                                 | 84      | 390                    | 21                | 1,510            | 79               |
| 2,000   | 310.0                                 | 16                | 1,690.0                                 | 85      | 400                    | 20                | 1,600            | 80               |
| 2,100   | 319.2                                 | 15                | 1,780.8                                 | 85      | 410                    | 20                | 1,690            | 80               |
| 2,200   | 325.6                                 | 15                | 1,874.4                                 | 85      | 420                    | 19                | 1,780            | 81               |
| 2,300   | 335.8                                 | 15                | 1,964.2                                 | 85      | 430                    | 19                | 1,870            | 81               |
| 2,400   | 343.2                                 | 14                | 2,056.8                                 | 86      | 440                    | 18                | 1,960            | 82               |
| 2,500   | 350.0                                 | 14                | 2,150.0                                 | 86      | 450                    | 18                | 2,050            | 82               |
| 2,600   |                                       |                   |   |         | 460                    | 18                | 2,140            | 82               |
| 2,700   |                                       |                   |   |         | 470                    | 17                | 2,230            | 83               |

- a/ First 150,000 to recreational base; then share additional fish 2:1, troll to recreational (.667 to troll, .333 to recreational) up to harvestable stock size of 350,000; then from 350,000 to 800,000 allowable harvest the recreational allocation is =  $.14 \times (\text{allowable harvest} - 350) + 217$ ; then above 800,000 harvestable the recreational allocation is =  $.10 \times (\text{allowable harvest} - 800) + 280$ ; but at low stock sizes enough coho will be reallocated to the troll fishery as a shaker mortality set-aside to permit chinook fishing if the calculated troll allocation is insufficient.
- b/ Recreational allocation will be reduced and allocation increased by the amount of shaker mortality set-aside necessary to permit a direct commercial chinook fishery. Shaker set-aside needed to permit troll fishery to access chinook is determined each season.



### Explanation of Allocation Tables

The present allocation schedule (status quo) is also contained in the "Final Framework Amendment for Managing the Ocean Salmon Fisheries Off the Coasts of Washington, Oregon, and California Commencing in 1985," (pages vii through viii and pages 3-42 through 3-44).

There are five zones of similar calculation in the proposed (Option 2) allocation of allowable harvest as follows:

1. at an allowable harvest level of 100,000 coho, the level of shaker set-aside needed to allow the maximum chinook harvest possible would be determined by the SPDT annually.
2. at an allowable harvest level of 200,000 coho, the troll fishery would be allocated 33,000 fish and 167,000 fish would be allocated to the recreational fishery as the agreed upon recreational "base." However, if the troll allocation was insufficient to allow a directed chinook fishery, additional coho would be subtracted from the recreational share.
3. above an allowable harvest level of 200,000 coho, where base allocation levels of 150,000 to recreational and 50,000 to troll were established, the fisheries share additional fish 66 percent troll and 33 percent recreational up to the 350,000 harvestable stock level.
4. between harvestable levels of 350,000 and 800,000 coho, the recreational allocation is calculated from the formula:  $\text{Recreational Allocation} = 217,000 + .14 * (\text{Harvestable Stock} - 350,000)$  then  $\text{Troll Allocation} = \text{Total Allowable Harvest} - \text{Recreational Allocation}$ .
5. above an allowable harvest level of 800,000 coho, the recreational allocation is equal to  $280,000 + .10 * (\text{allowable harvest} - 800,000)$ --then  $\text{Troll Allocation} = \text{Total Allowable Harvest} - \text{Recreational Allocation}$ .

### Benefit and Cost Analysis

The analysis in this subsection describes the potential benefits of the proposed Option 2 allocation scheme compared to Option 1 (status quo). Option 2 increases the recreational allocation at all allowable harvest levels above 260,000 coho. Below this level, the slight increase in allocation to the troll fishery continues to provide the mortality allowance which guarantees a troll chinook fishery.

At allowable harvests above 260,000 coho, the recreational allocation is increased and the commercial allocation is decreased under Option 2. The increase ranges from 30,000 more fish at an allowable harvest of 300,000 to an increase of 100,000 fish at an allowable harvest of 2.5 million. Table B-14 shows the potential increase in recreational allocation for allowable harvests ranging from 300,000 to 2.0 million fish.





Table B-14. Option 2-Option 1: Potential increase in recreational allocation (thousands of fish).

| Total South of Cape Falcon<br>Allowable Harvest | Potential Increase in Thousands of<br>Recreational Allocation (fish) |
|---|--|
| 300   | +30  |
| 400   | +54  |
| 500   | +68  |
| 600   | +82  |
| 700-2,000                                       | +86-100  |



Table B-15. Potential changes in the area south of Cape Falcon NEV (Option 2-Option 1).

| Potential Increase<br>In Recreational<br>Allocation <sup>a/</sup><br>(thousands of fish) | Potential Changes in NEV<br>(thousands of dollars) |            | Potential Changes in NEV<br>With 50 Percent Roll Back <sup>c/</sup><br>(thousands of dollars) |            |
|--|--|------------|---|------------|
|  | Recreational                                       | Commercial | Recreational  | Commercial |
| 20   | + 862  | - 246      | + 431   | -136       |
| 40   | +1,725   | - 493      | + 862   | -271       |
| 60   | +2,587   | - 739      | +1,294  | -407       |
| 80   | +3,450   | - 986      | +1,725  | -542       |
| 100  | +4,312   | -1,232     | +2,156  | -678       |
|  |  |            |   | +1,478     |

a/ Represents the maximum additional allocation of fish which could be used by the recreational fishery over a range of allowable harvest levels.

b/ Calculated as the estimated maximum potential gain to the recreational fishery (full utilization of the increased allocation) minus the estimated maximum potential loss of commercial NEV.

c/ Assumes the recreational fishery utilizes only 50 percent of the increased allocation and that 90 percent of the "excess" fish are utilized in the commercial fishery south of Cape Falcon.



Several factors make it extremely difficult to predict with certainty the change in NEVs which will result from adoption of the proposed, revised allocation schedule (Option 2).

1. The extent to which the recreational fishery will utilize the increased allocation is uncertain.
2. The distribution of allowable harvests is not predictable over a period of years.
3. Recreational catch rates are not completely predictable. However, since 1979 the annual average catch per angler day south of Cape Falcon has varied between 0.67 and 1.04 fish per day (ODFW, 1985b). The simple average of these annual catch rates is 0.86 fish per day. During one year of this period, a three fish per day bag limit was in effect compared to the two fish per day limit currently in place.

With these difficulties in mind, it is possible to suggest a potential range of change in NEV. Table B-15 summarizes some estimates. Several key assumptions are made.

- ° Each additional fish allocated to the recreational fishery has the potential to support approximately one additional day of use.
- ° The potential days of use added support an extension of the season either forward or backward in time, rather than an increase in success rates.
- ° The marginal NEV per additional recreational day is about \$43.12, the estimated average NEV per angler day (Brown, 1980; Council, 1986b). This assumption is justified under the modest reallocation schedule proposed. If bag limits were not restricted, or if the allocation was set at a level where the recreational fishery is "saturated" in terms of ability to utilize their allocation, the assumption might not be reasonable.
- ° The marginal NEV per commercial coho is about \$12.32 per fish (Council, 1986b). This represents the high end of estimates of potential NEV, which is reasonable only under the assumption for substantial excess harvesting and processing capacity and immobility of factors of production in the long run. Prices and average weights are assumed to be the same as in 1985.
- ° The commercial fishery will be able to use 90 percent of the "roll-over" in the event the recreational fishery is unable to utilize their full allocation.
- ° The improved ability of recreational users to plan and of charter boat and recreational support businesses to "guarantee" their customers an open fishery will increase the angler use and tourism in coastal communities.



The recreational fishery would probably not always utilize its increased allocation. Thus, the "roll-over" provision is important in maintaining NEVs south of Cape Falcon. It should be noted that coho not utilized in the area south of Cape Falcon would most likely be taken in other fisheries, particularly the Columbia River gillnet fishery or, perhaps, the ocean fisheries near the mouth of the Columbia River and Buoy 10 recreational fishery.

In cases where the recreational catch is extremely low, perhaps lower than the status quo allocation, there would be "roll-over" to the commercial fishery. In these cases, the south of Cape Falcon commercial fishery would fare roughly as well as under the status quo, because of the provision that the mandatory "roll-over" will be as near as possible to August 1 of each year.

Management costs are not projected to increase because inseason harvest assessment is already accomplished on a near real-time basis.

No other alternatives are evaluated in this analysis. The consideration for a wider range of alternatives had already taken place earlier through the efforts of the user groups, Commission, and ODFW staff. Option 2 represents the efforts described earlier to develop a joint commercial and recreational user negotiated alternative to the status quo.

#### Distributional Effects

The overall impacts of reallocation on the personal income in coastal communities south of Cape Falcon are examined below. The use of I/O modeling to assess these impacts is discussed in ODFW economics report (ODFW, 1985b) and the recent Council documents (Council, 1985a and Council, 1985b).

Under the key assumptions made in the previous subsection, an analysis of the likely impacts on coastal community income is possible. The most recent estimates are that an average commercially harvested and processed coho will generate \$18.39 in coastal community personal income for the Oregon counties south of Cape Falcon. The average recreational fishing day will generate about \$43 in personal income, based on an estimated distribution of 25 percent charter boat days and 75 percent private boat days. This distribution is slightly above the charter boat percentage since 1981; however, it is argued that extension and stabilization of the recreational season will produce a proportionally larger increase in charter angler days. The proportion of ocean salmon charter angler days to private angler days for Oregon ranged from 27 to 36 percent during the period 1973-1980, when seasons were relatively unrestricted.

Table B-16 shows estimated potential changes in coastal community personal income from adopting the "new" allocation alternative (Option 2).

It should be emphasized, again, that there will be year to year variations in many critical variables which effect the economic impact estimates. These include such variables as the allowable harvest, prices, average weights, and recreational catch rates. Thus, the estimates presented should be considered illustrative of the effects and not precise.





Table B-16. Potential changes in annual south of Cape Falcon coastal community personal income (Option 2-Option 1).

| Potential Increase<br>In Recreational<br>Allocation <sup>a/</sup><br>(thousands of fish) | Potential Changes in<br>Community Personal Income<br>(thousands of dollars)<br>Related to |            |        | Potential Changes in<br>Community Personal Income<br>With 50 Percent Roll Back<br>(thousands of dollars)<br>Related to <sup>c/</sup> |            |        |
|--|---|------------|--------|--|------------|--------|
|  | Recreational <sup>b/</sup>  | Commercial | Total  | Recreational   | Commercial | Total  |
| 20   | + 860   | - 368      | + 492  | + 430  | - 202      | + 228  |
| 40   | +1,720  | - 736      | + 984  | + 860  | - 405      | + 455  |
| 60   | +2,580  | -1,103     | +1,477 | +1,290   | - 607      | + 683  |
| 80   | +3,440  | -1,471     | +1,969 | +1,720   | - 809      | + 911  |
| 100  | +4,300  | -1,839     | +2,461 | +2,150   | -1,011     | +1,139 |

a/ Represents the maximum additional allocation of fish which could be used by the recreational fishery over a range of allowable harvest levels.

b/ Calculated as the estimated maximum change resulting from increased recreational fishing assuming tags of fishing increase along with the allocation of fish and that expenditure in coastal communities by recreationalists increase proportionally.

c/ Assumes the recreational fishery utilizes only 50 percent of the increased allocation and that 90 percent of the "excess" fish are utilized in the commercial fishery south of Cape Falcon.



No significant new reporting, record keeping, or other compliance costs will be imposed upon individuals or the small businesses which comprise the commercial and recreational fisheries. Other regulated functions of these business entities will not be affected differentially by adoption of the proposed revised schedule (Option 2). There are no other federal rules which would duplicate, overlap, or conflict with the proposed alternative to the status quo.

Finally, there would be no difference in the paperwork required under either option.

### Sectoral Analysis of Impacts

Of interest to local business and community leaders is the impact of fishing activities on specific local businesses. Such impacts depend on the expenditures by the type of fishery. Because most revenues of the commercial fisherman go directly into the household sector, the general business in the local area (retail, wholesale, housing, medical services, etc.) that depend on general purchases are affected by larger amounts than are specific businesses serving the local commercial salmon industry.

The sectoral impacts per \$1,000,000 of total community impacts that result from commercial or recreational fishing activities are displayed in Table B-17. If the local impact of commercial salmon harvesting and processing on the Oregon coast was \$1,000,000; the owners and workers in harvesting and processing could expect to receive about \$560,000 of income. The local businesses that depend on the salmon industry's expenditures could expect about \$90,000 of income. Businesses dependent upon household expenditures related to commercial fishing activities could expect about \$350,000 of income (of this amount the general retail trade sector of the community could expect about \$90,000, about the same as fishing related businesses). Because a large part of the salmon industry revenue goes to labor, the general business sector in communities on the Oregon coast are affected as much or more than those businesses relying specifically on fishery-related expenses.

In the recreational fishery, a specific industry is not easily defined. Much of the income (\$450,000) is therefore generated in the support industries such as lodging and restaurants. Income in the general economy could increase by \$360,000 (of this the retail sector could increase by \$93,000) while the direct income in the recreational fishing industry would increase by \$190,000.

These relationships of Table B-17 can be used to evaluate any specific allocation change. For example, the potential increase in recreational allocation of 100,000 fish would affect the income of persons directly associated with the fishing industry negatively by \$212,840 (Table B-18). Support industries and businesses in the general economy would show increases in income of \$1,769,500 and \$904,350.

It is important to note that while a change may result in a total positive income impact, specific sectors may be affected negatively. Also, the timing of these effects depends a great deal upon the reaction of the local fishermen and households to changes in income. Changes in expenditures for fishing-related goods may take effect within a very short time in relationship to decreases or increase of harvesting income. Personal expenditures for items



Table B-17. Sectoral analysis of fishing related impacts--per  
\$1,000,000 of total local income.

|   | Commercial<br>Fishing Impacts | Recreational<br>Fishing Impacts |
|---|-------------------------------|---------------------------------|
| Income Impact in the<br>Fishing Industry                  | \$560,000                     | \$190,000                       |
| Income Impact in<br>Support Industries                    | \$ 90,000                     | \$450,000                       |
| Income Impact in the<br>General Local Economy<br>(Retail) | \$350,000<br>(\$ 90,000)      | \$360,000<br>(\$ 93,000)        |



Table B-18. Sectoral analysis of fishing related impacts--potential increase in recreational allocation of 100,000 fish.

|   | Commercial<br>Fishing Impacts | Recreational<br>Fishing Impacts | Net Local<br>Income Impact |
|---|-------------------------------|---------------------------------|----------------------------|
| Income Impact in the<br>Fishing Industry      | \$-1,029,840                  | \$+ 817,000                     | \$- 212,840                |
| Income Impact in<br>Support Industries        | - 165,500                     | +1,935,000                      | +1,769,500                 |
| Income Impact in the<br>General Local Economy | - 643,650                     | +1,548,000                      | + 904,350                  |





such as rents, medical bills, and groceries may not be affected for some time. Savings or other transfer payments may be used to keep some of these expenditures at a previous level. However, over time these sectors will also feel the effects of the changes in harvest income.

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## APPENDIX C

### Consistency With Federal and State Coastal Zone Management Programs







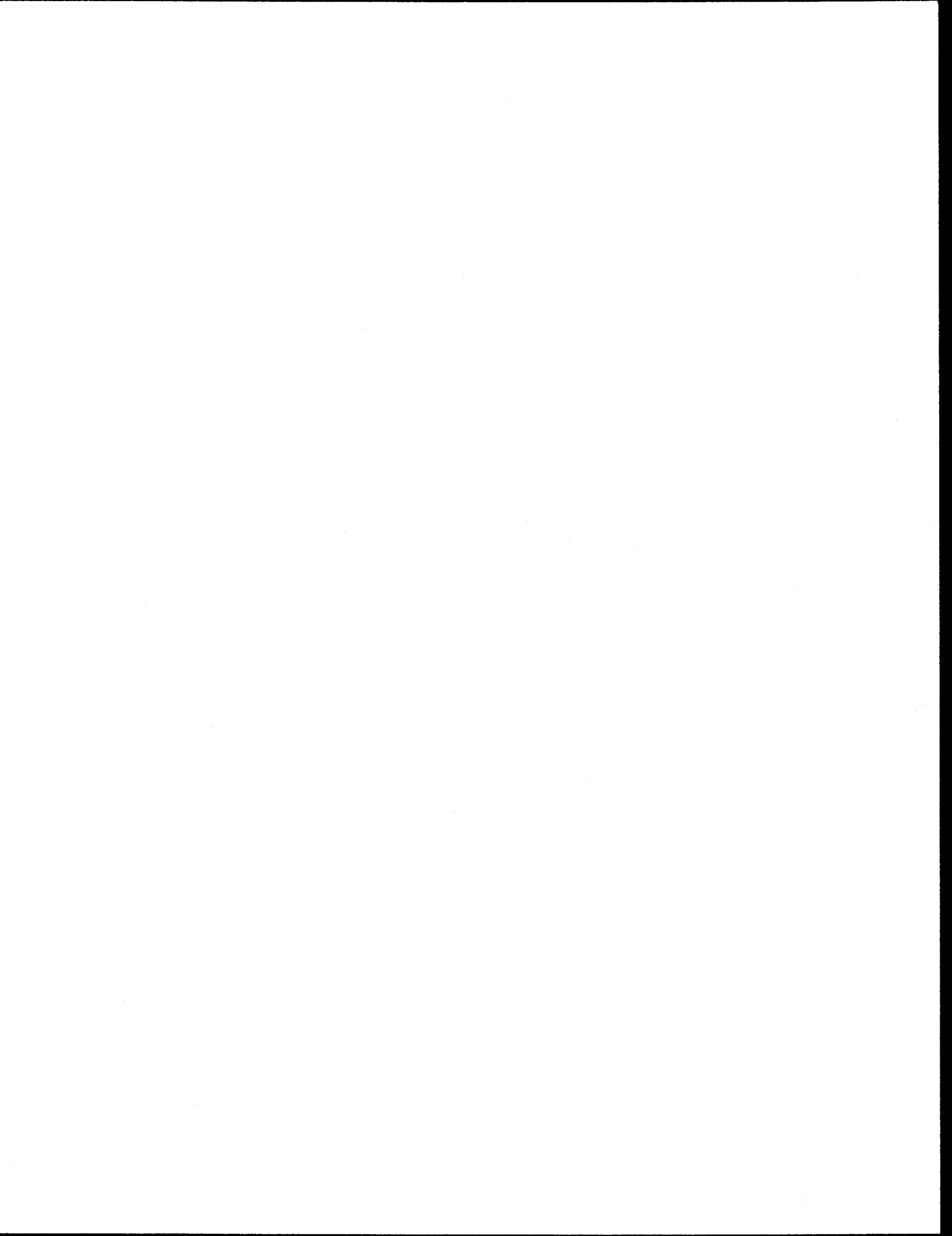
APPENDIX C TABLES  
Consistency With Federal and State Coastal Zone Management Programs

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APPENDIX C  
CONSISTENCY WITH FEDERAL AND STATE COASTAL ZONE MANAGEMENT PROGRAMS

Coastal Zone Management Act

The CZMA of 1972 specifies at Section 307(c)(1) that "Each federal agency conducting or supporting activities directly affecting the coastal zone shall conduct or support those activities in a manner which is, to the maximum extent practicable, consistent with approved state management programs."

The MFCMA specifies at Section 303(b) that "Any FMP which is prepared by any council or by the Secretary, with respect to any fishery, may . . . (5) incorporate (consistent with the national standards, the other provisions of MFCMA, and any other applicable law) the relevant fishery conservation and management measures of the coastal states nearest to the fishery."

Both the CZMA and the MFCMA establish policies that affect the conservation and management of fishery resources.

NOAA administers both the MFCMA and the CZMA. Moreover, it is NOAA's policy that the two statutes are fundamentally compatible and should be administered in a manner to give maximum effect to both laws. It is also NOAA's policy that most FMPs (and amendments of FMPs) constitute a federal activity that "directly affects" the coastal zone of a state with an approved coastal zone management program. NOAA recognizes that fisheries constitute one of the key resources of the coastal zone and that the preparation and implementation of FMPs to regulate fisheries in the FCZ could have a direct effect on the state's coastal zone because of the division of the fishery resources between the FCZ and state territorial and internal waters.

The CZMA and MFCMA establish time frames for consistency review and approval of FMPs and amendments that are approximately equal. However, these time frames may, on occasion, cause procedural problems in coordinating consistency review and approval of FMPs or amendments.

NOAA regulations require that consistency determinations be provided to states with approved programs "at least 90 days before final approval of the federal activity unless both the federal agency and the state agency agree to an alternative notification schedule" (15 CFR 930.54[b]). Similarly, NOAA regulations encourage federal agencies to provide consistency determinations "at the earliest practical time" in the planning of an activity, "before the federal agency reaches a significant point of decision making in its review process" (930.54[b]). A state must indicate its agreement or disagreement with the consistency determination within 45 days. If the state fails to respond within 45 days, the state's agreement may be presumed. However, the state may request one 15-day extension before the expiration of the 45 day period, and the federal agency must comply. Longer extensions may be granted by the federal agency (15 CFR 930.41)

The MFCMA requires that the Secretary of Commerce review an FMP or amendment prepared by a council and notify such council of his approval, disapproval, or partial approval within 95 days after the FMP or amendment is received (P.L. 97-453).



The sections that follow summarize those portions of the Washington, Oregon, and California coastal zone management programs that may be relevant to the seventh amendment to the Pacific coast salmon FMP.

#### Washington State Coastal Zone Management Program

The Washington DOE is lead state agency for implementation of the WCZMP. The coastal zone boundary embodies a two-tier concept. The first or primary tier, bounded by the "resource boundary," encompasses all of the state's marine waters and their associated wetlands, including, at a minimum, all upland area 200 feet landward from the ordinary high water mark. The second tier, bounded by the "planning and administrative boundary," is composed of the area within the 15 coastal counties which front on saltwater. The second tier is intended to be the maximum extent of the coastal zone and, as such, is the context within which coastal policy planning is accomplished through the WCZMP.

Management of the coastal zone is subject to the Shoreline Management Act and implementing regulations, Federal and State Clean Air Act requirements, and energy facility siting law. Together, these authorities establish priorities for permissibility of uses and provide guidance as to the conduct of uses of Washington's coastal zone. The emphasis of the program includes not only Washington's coastal waters but the shoreline jurisdiction throughout the 15 coastal counties.

The WCZMP provides a consistency review mechanism for federal activities affecting the coastal zone based on specific policies and standards. For federal activities requiring no permits, but having coastwide implications (such as FMPs), the policies and standards addressed in the Shoreline Management Act of 1971 (RCW 90.58) and the Final Guidelines (WAC 173-16) provide the basis for determining consistency.

#### Shoreline Management Act

The management goals in the Shoreline Management Act emphasize a balance between conservation and use of the shorelines. More specific priorities were given to "shorelines of statewide significance" encompassing an area including Washington ocean waters and shoreline from Cape Disappointment on the south to Cape Flattery on the north, including harbors, bays, estuaries, and inlets.

The seventh amendment to the FMP is consistent with the following directives contained in the WCZMP concerning shoreline management.

##### (a) Recognize and protect the statewide interest over local interest

Only Issue 2 (Inseason Management Actions and Procedures) of the proposed FMP amendment is relevant to this directive. This issue is consistent with protecting statewide over local interest by allowing the Council to correct and balance harvest inequities which develop inseason among all affected user groups.



(b) Preserve the natural character of the shoreline

This proposed FMP amendment should have no direct impact on the natural character of the Washington shoreline. The salmon fishing regulations and fisheries off Washington as they may be affected by issues in this amendment will have no impact on the natural character of the Washington shoreline.

(c) Result in long-term over short-term benefit

The FMP requires the annual consideration of long-term resource needs and long- and short-term social and economic benefits. The determination of OY balances these competing demands. Issue 1 of this amendment is intended to provide for a more equitable balancing of short- and long-term benefits from the harvest of OPI coho.

(d) Protect the resources and ecology of the shoreline

The purpose of the FMP and subsequent amendments is to conserve and protect the salmon resource for current and future use. The FMP amendment does not compromise this goal.

(e) Increase public access to publicly-owned areas of the shoreline

The amendment to the FMP will not have any direct or indirect affect on public access to publicly-owned areas along the coastal zone.

(f) Increase recreational opportunities for the public in the shoreline

The amendment will not change the present consistency of the FMP with respect to recreational fishing opportunities for the public in the shoreline off Washington.

DOE Final Guidelines

The concept of preferred shoreline uses has been incorporated in DOE's final guidelines, with water-dependent uses clearly a priority over water-oriented or nonwater-oriented uses. The guidelines address uses compatible with (1) the natural environment, (2) the conservancy environment, (3) the rural environment, and (4) the urban environment. Of the 21 individual development policies in the final guidelines, three have relevance or potential relevance to the federal activity proposed in this amendment to the FMP.

- (a) Commercial Development - Shoreline-dependent commercial development and developments which will provide shoreline enjoyment for a large number of people shall be preferred. New commercial activities shall locate in urbanized areas.
- (b) Ports and Water-related Industry - Industry which requires frontage on navigable waters should be given priority over other industrial uses. Prior to allocating shorelines for port uses, regional, and statewide needs for such uses should be considered.





Although this amendment does not specifically address development of water-related coastal industry, the improvement of economic benefits which the amendment issues address may provide an incentive for shoreside commercial development. Consideration of the economic viability of shoreside commercial developments that are dependent on salmon fisheries is an important economic factor in the annual determinations of OY by the Council.

- (c) Recreation - Priority will be given to developments which provide recreational uses and other improvements facilitating public access to shorelines. Water-oriented recreation is a preferred use along the shorelines, but it should be located and conducted in a way which is compatible with the environment.

The amendment does not specifically address shoreside recreational development, but all three issues concern optimizing the use of the available harvest to help stabilize the fishing and fishery related industries and could provide an incentive for such developments.

#### Oregon State Coastal Zone Management Program

The Oregon program calls for a consistency review of activities directly affecting the coastal zone; including air, water, scenic, living, economic, cultural, and/or mineral resources of the coastal zone.

The basis for the Oregon program is the 1973 Oregon Land Use Act, ORS 197. Oregon's program relies on the combined authority of state and local governments to regulate uses and activities in the coastal zone. The principal components of Oregon's program are: (1) 19 statewide planning goals and supporting guidelines adopted by LCDC, the state's coastal zone agency; (2) coordinated comprehensive local plans prepared by local governments and approved by the LCDC; and (3) selected state statutes implemented by various state agencies. Local and state planning decisions must comply with the Statewide Planning Goals, which serve as the program's overriding standards until local comprehensive plans are developed and acknowledged by LCDC. Once acknowledged, the comprehensive plans supersede the goals as standards for state and federal planning and activities in the coastal zone. Coastal zone boundaries are generally defined to extend to the state's seaward limit (three nautical miles offshore) and inland to the crest of the coastal mountain range.

The Oregon Coastal Management Program was approved by the U.S. Secretary of Commerce on May 6, 1977 with the Department of Land Conservation and Development as the implementing agency. The term "consistent" is interpreted by federal regulations as not requiring the management of salmon within the 197-mile federal FCZ to be the same as the state management within the three-mile territorial sea and inland waters. Rather, the term "consistent" requires federal management to be compatible with state management. However, federal management may be more restrictive than state management when more restrictive management is necessary to meet the standards of the federal MFCMA as amended. Federal management will be consistent with state management if enough adult salmon escape capture in the FCZ to allow for state managed ocean and inland salmon fisheries and sufficient spawning escapements. Spawning escapements will be sufficient if the natural spawning escapement goals are met and if Oregon hatcheries meet their egg needs.



Table C-1 lists the statewide planning goals and state regulations that were examined to determine the consistency of the framework amendment, categorized according to their particular relevance.

- (a) The salmon framework amendment was determined to be consistent with Goal 19, Ocean Resources, the most pertinent aspect of the Oregon Coastal Zone Program relating to salmon management. The overall statement of Goal 19 is:

"to conserve the long-term value, benefits, and natural resources of the nearshore ocean and continental shelf. All local, state, and federal plans, projects and activities which affect the territorial sea shall be developed, managed and conducted to maintain, and where appropriate, enhance and restore, long-term benefits derived from the nearshore oceanic resources of Oregon. Since renewable ocean resources and uses, such as food production, water purity, navigation, recreation and aesthetic enjoyment will provide greater long-term benefits than will nonrenewable resources, such plans and activities shall give clear priority to the proper management and protection of renewable resources."

Guidelines for Goal 19 reflect concerns for awareness of impacts upon fishing resources, biological habitat, navigation and ports, aesthetic uses, recreation and other issues.

Goal 19 is administered by the LCDC. The LCDC identified the following components of Goal 19's Implementation Requirement 2 as directly applicable to the framework amendment.

- ° The requirement to determine the impact of the proposed action.
- ° The requirement to develop scientific information on the stocks of commercially, recreationally, and ecologically important species of fish.
- ° The requirement to designate and enforce fishing regulations to obtain an OSY while protecting the natural marine ecosystem.
- ° The requirement to identify and protect important feeding areas, spawning areas, nurseries, migratory routes, or other biologically important areas of commercially and recreationally important fish and shellfish.
- ° The requirement to identify, maintain, and enhance the diversity, quality, and quantity of recreational opportunities over Oregon's continental shelf.

ORS 506.109 is administered by the Commission. The Commission identified the following components of ORS 506.109 as directly applicable to the framework amendment.

- ° The requirement to maintain all species of food fish at an optimum level in all waters of the state and to prevent the extinction of any indigenous species.



Table C-1. Oregon coastal zone management planning goals and state regulations.

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Category 1. Applicable Goals and Statutes

|                         |  |
|-------------------------|--|
| Goal No. 1              | Citizen Involvement in Planning                        |
| Goal No. 5              | Preservation of Open Space . . . and Natural Resources |
| Goal No. 8              | Recreational Needs                                     |
| Goal No. 16             | Estuarine Resources                                    |
| Goal No. 19             | Ocean Resources  |
| ORS 496.012             | Wildlife Policy  |
| ORS 506.109             | Foodfish Management                                    |
| ORS 506.201-<br>506.211 | Oregon Fish and Wildlife Management Planning           |

Category 2. Potentially Applicable Goals and Statutes

|             |                      |
|-------------|----------------------|
| Goal No. 2  | Land-use Planning    |
| Goal No. 9  | Economy of the State |
| Goal No. 17 | Coastal Shorelands   |
| ORS 184.033 | Economic Development |
| ORS 777.835 | Ports Planning       |

Category 3. Goals Relatively Inapplicable to the Proposed Action

|             |  |
|-------------|--|
| Goal No. 3  | Agricultural Lands                     |
| Goal No. 4  | Forest Lands                           |
| Goal No. 6  | Air, Water, and Land Resources Quality |
| Goal No. 7  | Areas Subject to Natural Disasters     |
| Goal No. 10 | Housing                                |
| Goal No. 11 | Public Facilities and Services         |
| Goal No. 12 | Transportation                         |
| Goal No. 13 | Energy Conservation                    |
| Goal No. 14 | Urbanization                           |
| Goal No. 18 | Beaches and Dunes                      |

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- ° The requirement to develop and manage the lands and waters of the state in a manner that will optimize the production, utilization, and public enjoyment of food fish.
- ° The requirement to regulate food fish populations and the use and public enjoyment of food fish in a manner that is compatible with other uses of the lands and waters of the state, and to provide the optimum commercial and public recreational benefits.
- ° The requirement to preserve the economic contribution of the sports and commercial fishing industries in a manner consistent with sound food fish management practices.

The Commission was given broad discretion to define the term "optimize" and "optimum" by the Oregon State Legislature. Establishing optimum management measures requires the balancing of management objectives which may conflict with one another. The Commission initially determined these optimum management measures through its June 1, 1982 "Comprehensive Plan for the Production and Management of Oregon's Anadromous Salmon and Trout" which is not a part of Oregon's approved coastal zone management program.

In its plan, the Commission defined the optimum management measures for coastal coho salmon as those which would produce a sustainable yield of 2.2 million adults composed of 1.67 million hatchery fish and 0.53 million wild fish. In order to reach this yield, an estimated natural spawning escapement of 200,000 adult coastal coho is required and private and public hatchery egg needs must also be met.

Since the OCN coho population was severely depressed when Goal 19 was adopted and the MFCMA became effective, the Commission adopted a rebuilding program designed to achieve a 200,000 adult coho spawning escapement by 1987. Incremental progress in achieving the 1987 escapement goal was, however, recognized as meeting the OSY criteria of Goal 19 as well as ORS 506.109. The Council included the rebuilding schedule from the Commission's coho plan within the framework amendment as one of many possible ways of incrementally achieving the 1987 spawning escapement goal.

Oregon's coho salmon plan established management objectives for long-term management of coho salmon under average or normal conditions. These objectives described maximizing production and allowing a fair and equitable ocean harvest by managing for a 69 percent ocean harvest rate and an OCN escapement of 200,000 spawners. However, the recent El Nino event demonstrated that under poor ocean survival conditions it was impossible to even approach that harvest rate or maintain an OCN escapement of 200,000. Thus, the Commission modified the coho plan in May 1985 to allow for deviations in OCN escapement objectives in order to provide ocean harvest of natural and hatchery coho under lower than normal stock size conditions while still maintaining a sustainable population. The Commission did not change





its long-term stock rebuilding objective, but provided for a deviation to allow needed flexibility when stock size is especially low.

The amended Oregon coho plan sets 50 percent as the appropriate split of OCN coho between harvest and escapement when the OCN stock size is below 400,000. Allowing half of the population to escape the fishery to spawn should quickly rebuild the stocks when ocean survival conditions rebound as long as the biological productivity of the stock has not suffered long-term damage. In order to ensure against such damage, the Commission approved a floor escapement level of 135,000 spawners. Under the amended plan, allowable harvest rates in the ocean will be reduced to meet the 135,000 floor goal under the worst conditions. If the total OCN stock size were reduced to 135,000, there would be no ocean harvest allowed at all, regardless of the abundance of hatchery coho or the socio-economic needs of the users.

The floor level of 135,000 was established to provide assured sustainability of stock productivity based on a review of the past history of the stock, a review of the stock recruitment analysis, and review of the expected geographic distribution of spawners. The biological staff of ODFW concluded it would be unlikely for long-term damage to result from occasional reductions of escapements for OCN coho as long as they remain at or above the floor level of 135,000. Since 1969, this stock has rebounded seven times from levels below 135,000. In reviewing the stock recruitment relationship, it was found that the 135,000 spawners would produce only 15 percent less smolts in the next generation than the MSY escapement (200,000) would produce.

Option 2 of Issue 1 (OCN Spawning Escapement Goal) is identical to Oregon's amended coho plan. At low stock size, Option 2 provides for a specific deviation from the MSY goal based on social, economic, and ecological factors. This is one of several ways of meeting OY as defined in the MFCMA or of meeting OSY of Goal 19. In comparison, Option 1 of this same issue establishes the same MSY goal as Option 2, but allows the Council full discretion to determine OY within the overall definition provided in the MFCMA. Both OY and OSY are defined in terms of a modification of MSY based on economic, social, or ecological considerations. Sustainability of optimum benefits is intrinsic to each goal and requires recognition of sustained levels of production at or near MSY to achieve those benefits. Therefore OY and OSY represent consistent criteria by which to establish annual harvest and escapement levels that satisfy both the MFCMA and Goal 19 under either option.

The management objectives that are expressed in the FMP and proposed amendment are consistent with the objective of Goal 19, the protection and conservation of ocean resources. Goal 19 emphasizes the long-term benefits that would be derived from the conservation and restoration of the renewable near shore oceanic resources. The FMP emphasizes the need to establish management measures that will provide for the conservation and protection of salmon stocks and will



help rebuild some stocks that have been chronically depressed. The amendment issues propose alternatives to the status quo which (1) attempt to clarify the management approach to OY, (2) provide additional management flexibility to meet inseason management needs of both the resource and the users, and (3) attempt to make a more optimal utilization of the coho harvest between recreational and commercial fishermen. None of the issues in the amendment jeopardize the protection and conservation of oceanic resources contained in the present FMP.

- (b) Goal No. 5 also addresses the issue of conservation of natural resources. The guidelines call for fish and wildlife areas and habitats to be protected and managed in accordance with the Commission's management plans. The FMP was found consistent with the management objectives for salmon stocks off Oregon that were developed by the ODFW and adopted by the Commission. No action suggested by the FMP amendment would compromise this consistency. The alternative option to the status quo in Issue 1 was proposed by ODFW as an improved management approach.
- (c) Goal No. 16 addresses the protection of estuarine resources. This goal emphasizes the need for protection, maintenance, development, and appropriate restoration of long-term environmental, economic, and social values; diversity and benefits of Oregon's estuaries. Comprehensive plans and activities affecting estuaries must protect the estuarine ecosystem including its biological productivity, habitat, diversity, unique features, and water quality. However, Goal 16 underscores the need to classify Oregon estuaries and to specify "the most intensive level of development or alteration which may be allowed to occur within each estuary." Neither the FMP nor its amendment has a direct affect on development or alteration of the estuarine environment.
- (d) Goal No. 8, Recreational Needs, refers to existing and future demand by citizens and visitors for recreational facilities and opportunities. Planning guidelines recommend that inventories of recreational opportunities be based on adequate research and analysis of the resource, and where multiple uses of the resource exist, provision be made for recreational users. The FMP amendment would maintain or increase the current opportunity for Oregon recreational fishermen to harvest salmon. Issue 3 proposes an alternative to the status quo that would directly allocate a greater share of the coho harvest off Oregon to the recreational fishermen.
- (e) Goal No. 1, Citizen Involvement, calls for the coordination of state, regional, and federal planning with the affected governing bodies and citizenry. Guidelines address communication methods, provision of technical information, and feedback mechanisms to assure the opportunity for citizen involvement in planning processes. The FMP process provides for close collaboration and coordination between state and federal management entities and assures citizen involvement in decision making through the forum of the Council and through a series of public hearings that are convened before the Council adopts any fishery management measures.



- (f) Lastly, insofar as FMPs and FMP amendments have the potential to indirectly affect the coastal zone by stimulating private development of new markets or development of fish handling and processing facilities, or otherwise influence land-use planning, it is consistent with Goals 2, 9, and 17.

California State Coastal Zone Management Plan and San Francisco Bay Plan

California State Coastal Zone Management Plan

The California State Coastal Zone Management Plan is based upon the California Coastal Act of 1976, Division 20, California Public Resources Code, Sections 30000, et seq.; the California Urban and Coastal Park Bond Act of 1976, Division 5, CPRC 5096.777 et seq.; and the California Coastal Commission Regulations, California Administrative Code, Title 14.

The California Coastal Act establishes a structure for state approval of local coastal programs (Section 30050). The California Coastal Commission is the state's coastal zone agency (Section 30300). The coastal zone boundaries are generally the seaward limit of state jurisdiction, and inland to 1,000 yards from the mean high tide line.

The general provisions of the California plan that address issues significant to this analysis concern the protection of the ocean's resources, including marine fish and the natural environment. The plan also calls for the balanced utilization of coastal zone resources, taking into account the social and economic needs of the people of the state. Specific coastal zone policies developed to achieve these general goals and which are applicable or potentially applicable to the regulatory measures proposed in the amendment to the FMP have been identified as follows.

- (a) Section 30210 - ". . . recreational opportunities shall be provided for all the people consistent with the need to protect natural resource areas from overuse."

This goal was found to be consistent with the FMP which seeks to provide recreational fishing opportunities consistent with the needs of other user groups and the need to protect the resource. Nothing in the FMP amendment will alter this consistency.

- (b) Section 30231 - "The biological productivity and quality of coastal waters, streams, estuaries, and lakes appropriate to maintain optimum populations of marine organisms and for the protection of human health shall be maintained, and, where feasible, restored . . ."

Any action considered in the amendment does not affect the quality of coastal waters. However, it does provide for the conservation and optimum use of salmon stocks, which are an integral part of the ecology of the coastal waters.



- (c) Section 30230 - "Uses of the marine environment shall be carried out in a manner . . . that will maintain healthy populations of all species of marine organisms adequate for long-term commercial, recreational scientific, and educational purposes."

The amendment to the FMP does not jeopardize the reproductive capability of any resource, has no significant environmental impacts, and promotes equitable utilization among user groups, with the intent of maintaining the salmon harvest at optimum levels.

- (d) Section 30234 - "Facilities serving the commercial fishing and recreational boating industries shall be protected, and where feasible, upgraded."

This amendment does not specifically address the development of shoreside facilities that serve the commercial and recreational fishing industries. However, the improvement of economic benefits and stability of the fisheries which the amendment issues address should be to the benefit of shoreside industry.

- (e) Section 30260 - "Coastal-dependent industrial facilities (such as fishing support) shall be encouraged to locate or expand within existing sites and shall be permitted reasonable long-term growth where consistent with the MFCMA."

- (f) Section 30708 - "All port-related developments shall be located . . . so as to . . . give highest priority to the use of existing, and space within harbors for port purposes including . . . necessary (commercial fishing) support and access facilities."

The amendment does not address the location of coastal-dependent industry or ports.

- (g) Section 30411 - "CDFG and the Fish and Game Commission are the state agencies responsible for the establishment and control of wildlife and fishery management programs."

The director of CDFG is a voting member of the Council. A representative from the CDFG participates on the Council's SPDT and helped develop the FMP and its amendment. The MFCMA mandated that all interested individuals, including state fishery management personnel, would have the opportunity to participate in the preparation of FMPs and amendments. This action is consistent with the provisions of Section 30411 because CDFG has been involved in the planning process for those parts of the amendment that pertain to the management of California and coastwide fisheries.

#### San Francisco Bay Plan

The California State Coastal Zone Management Plan does not include San Francisco Bay. The San Francisco Bay Conservation and Development Commission has jurisdiction over the San Francisco Bay itself, as well as any river, stream, tributary, creek, flood control or drainage channel that flows into the San Francisco Bay.





The San Francisco Bay Plan was approved by the California legislature in 1969. Part II of the Plan describes the Commission's objectives as follows:

1. protect the bay as a great natural resource for the benefit of present and future generations
2. develop the San Francisco Bay and its shoreline to their highest potential with a minimum of bay filling

Part III of the San Francisco Bay Plan describes the findings and policies of the commission including fish and wildlife policies for the San Francisco Bay. The adopted policies state:

- "1. the benefits of fish and wildlife in the bay should be insured for present and future generations of Californians. Therefore, to the greatest extent feasible, the remaining marshes and mudflats around the bay, the remaining water volume and surface area of the bay, and adequate fresh water inflow into the bay should be maintained.
- "2. specific habitats that are needed to prevent the extinction of any species, or to maintain or increase any species that would provide substantial public benefits, should be protected, whether in the bay or on the shoreline behind dikes . . ."

Part IV of the San Francisco Bay Plan presents the findings and policies concerning the development of the bay and the adjacent shoreline. Emphasis is given to the consideration of construction projects on filled lands and the controls overfilling and dredging in the San Francisco Bay.

The amendment to the FMP does not address water flows, inshore habitat protection, or shoreline development.

#### Consistency Determination

The amendment document, including its appendices, describe the issues considered in the seventh amendment to the FMP and evaluates the likely impacts of various actions that are to be taken. The EA (Appendix A) and the RIR/IRFA (Appendix B) compare the expected impacts of the amendment from environmental, social and economic perspectives and assess the impacts on small business. Actions recommended in this amendment have been determined to have no significant impact under the NEPA, Executive Order 12991, and the Regulatory Flexibility Act.

Based on the above discussions and supported by these determinations, the Council finds the actions likely to result from the seventh amendment to the FMP are consistent, to the maximum extent practicable, with the approved Washington, Oregon, California, and San Francisco Bay coastal zone management plans.



APPENDIX D

Other Applicable Law







APPENDIX D  
OTHER APPLICABLE LAW

Endangered Species Act of 1973

The purposes of the ESA are to provide a means whereby the ecosystems upon which endangered and threatened species depend may be conserved, to provide a program for the conservation of such endangered and threatened species, and to take such steps as may be appropriate to achieve the objectives of the treaties and conventions created for these purposes. The Council and NMFS determined that the conservation and management measures in the framework amendment had no adverse impact on any threatened or endangered species in the Council's fishery management area (jurisdiction) and did not jeopardize the continued existence of any endangered or threatened species or result in the destruction or adverse modification of habitat of any such species.

Only Issue 1 of the FMP amendment allows for increased harvest impacts on a stock of fish. The OCN coho are not in a threatened or endangered status and the Council has determined that the floor level spawning escapement goal of 135,000 OCN coho will not put the stock's continued existence in jeopardy.

Marine Mammal Protection Act of 1972

The purpose of the MMPA is to protect marine mammals and to prevent certain marine mammal species and stocks from falling below their optimum sustainable population which is defined in Section 3(8) as ". . . the number of animals which will result in the maximum productivity of the population or the species, keeping in mind the carrying capacity of the habitat and the health of the ecosystem of which they form a constituent element."

Recreational and commercial salmon fishermen occasionally will have an incidental involvement with marine mammals. Any commercial fishermen that may expect to become involved with marine mammals incidental to normal fishing operations should apply to the NMFS for a free Certificate of Inclusion under the appropriate MMPA General Permit. The Certificate of Inclusion provides for the incidental take of marine mammals as authorized by the General Permit and applicable federal regulations (50 CFR 216.24).

MMPA General Permits that provide for the incidental take of marine mammals during commercial salmon fishing operations off the west coast have been issued by NMFS for a five-year period ending December 31, 1988. Commercial fishing under the seventh amendment to the FMP will not be any different than what was anticipated and provided for in the issuance of the General Permit.

Pacific Northwest Electric Power Planning and Conservation Act of 1980

There are two major fishery resource conservation purposes of the NPPA. The first is to protect, mitigate, and enhance the fish and wildlife, including related spawning grounds and habitat, of the Columbia River and its tributaries, particularly anadromous fish which are of importance to the social and economic well-being of the Pacific Northwest. This purpose is addressed by the Columbia Basin Fish and Wildlife Program, adopted by the Power Planning Council on November 15, 1982 and as amended October 10, 1984.





The second purpose is to protect, mitigate, and enhance the fish and wildlife, including related spawning grounds and habitat throughout the northwest, and including provision of "sufficient quantities and qualities of flows for successful migration, survival, and propagation of anadromous fish." This purpose is addressed in the wildlife program and the Regional Energy Plan adopted in April, 1983.

The Council, NMFS, and treaty Indian tribes have participated with the Power Planning Council (established by the NPPA) in developing and carrying out the fishery provisions of the NPPA. The objectives of these fishery related activities were found to be consistent and compatible with the conservation and management goals of the salmon FMP. No amendment issue will alter this consistency.

#### Pacific Salmon Treaty Act of 1985

The PSTA was established to implement the Pacific Salmon Treaty between the U.S. and Canada. The treaty provides for bilateral cooperation in salmon management, research, and enhancement by establishing a bilateral commission with coastwide responsibilities for management of "intercepting" salmon fisheries. The PSTA provides for coordination with the Council managed fisheries by requiring that at least one representative to the Commission's southern panel be a voting member of the Council and by requiring consultation with the Council in the promulgation of regulations necessary to carry out the obligations under the treaty. Nothing in the current salmon FMP has been identified as inconsistent with the PSTA and the FMP amendment issues do not provide for a change to the harvest rates on any intercepted stocks.

#### Paperwork Reduction Act of 1980

The major purposes of the Paperwork Reduction Act of 1980 are: (1) to minimize the federal paperwork burden for individuals, small businesses, state, and local governments; (2) to minimize the cost to the federal government of collecting, maintaining, using, and disseminating information; and (3) to ensure that the collection, maintenance, use and dissemination of information by the federal government is consistent with applicable laws relating to confidentiality. The Council has determined that neither the FMP amendment nor the regulations that will implement the amendment will involve any federal government collection of information that would violate the purposes and requirements of the Paperwork Reduction Act.

